WATER SUPPLY OUTLOOK
and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
for
OREGON

UNITED STATES DEPARTMENT of AGRICULTURE···SOIL CONSERVATION SERVICE

and

OREGON STATE UNIVERSITY

and

STATE ENGINEER of OREGON

Data included in this report were obtained by the agencies named above in cooperation with other Federal, State and private organizations.

AS OF
FEB. 1, 1965

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Water Supply Outlook Reports:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from advance estimates of the streamflow.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, up to 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

Streamflow forecasts are obtained by a comparison of total or maximum snow accumulation, as measured by snow water equivalent, to the subsequent spring and summer or snowmelt season runoff over a period of years. The snow water equivalent measured in selected snow courses provides most of the index to the streamflow forecast for the following season. More accurate forecasts are usually obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast procedure. Early season forecasts assume average climatic conditions through the snowmelt season.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions. Soil Conservation Service Reports may be secured from Soil Conservation Service, 511 N.W. Broadway - Room 507, Portland, Oregon 97209.

PUBLISHED BY SOIL CONSERVATION SERVICE

REPORTS	ISSUED	LOCATION	COOPERATING WITH
RIVER BASINS			
Western United States	Monthly (Feb.-May)	Portland, Oregon	All Cooperators
Basic Data Summary	October 1	Portland, Oregon	All Cooperators
STATES			
Alaska	Monthly (Mar.-May)	Palmer, Alaska	Alaska S.C.D.
Arizona	Semi-Monthly (Jan. 15 - Apr. 1)	Phoenix, Arizona	Salt R. Valley Water Users Assoc. Ariz. Agr. Exp. Station
Colorado and New Mexico	Monthly (Feb.-May)	Fort Collins, Colorado	Colo. State University Colo. State Engineer N. Mex. State Engineer
Idaho	Monthly (Jan.-June)	Boise, Idaho	Idaho State Reclamation Engineer
Montana	Monthly (Jan.-June)	Bozeman, Montana	Mont. Agr. Exp. Station
Nevada	Monthly (Jan.-May)	Reno, Nevada	Nevada Dept. of Conservation and Natural Resources - Division of Water Resources
Oregon	Monthly (Jan.-June)	Portland, Oregon	Oreg. State University Oregon State Engineer
Utah	Monthly (Jan.-June)	Salt Lake City, Utah	Utah State Engineer
Washington	Monthly (Feb.-June)	Spokane, Washington	Wn. State Dept. of Conservation
Wyoming	Monthly (Feb.-June)	Casper, Wyoming	Wyoming State Engineer

PUBLISHED BY OTHER AGENCIES

REPORTS	ISSUED	AGENCY
British Columbia	Monthly (Feb.-June)	Water Resources Service, Dept. of Lands, Forest and Water Resources, Parliament Bldg., Victoria, B.C., Canada
California	Monthly (Feb.-May)	Calif. Dept. of Water Resources, P.O. Box 388, Sacramento, Calif.

WATER SUPPLY OUTLOOK
and
FEDERAL - STATE - PRIVATE COOPERATIVE SNOW SURVEYS
for
OREGON

ISSUED

FEBRUARY 8, 1965

Report prepared by

W. T. FROST, Snow Survey Supervisor

and

BOB L. WHALEY, Assistant Snow Survey Supervisor

SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST
PORTLAND, OREGON 97205

Issued by

A. J. WEBBER
STATE CONSERVATIONIST
SOIL CONSERVATION SERVICE

F. EARL PRICE
DIRECTOR
OREGON AGRICULTURAL
EXPERIMENT STATION

CHRIS L. WHEELER
STATE ENGINEER
STATE OF OREGON

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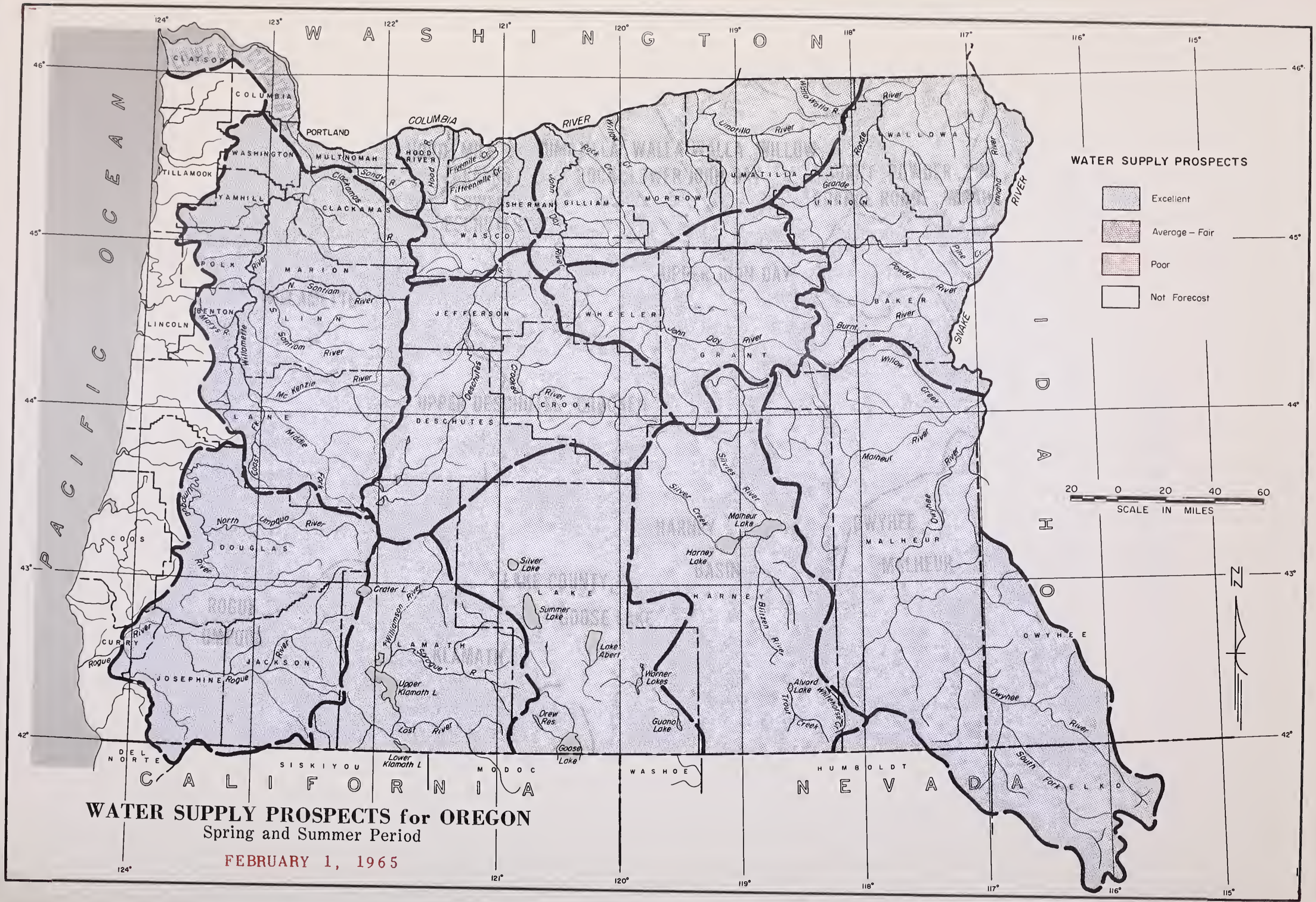

WATER SUPPLY PROSPECTS for OREGON

Spring and Summer Period

FEBRUARY 1, 1965

WATER SUPPLY OUTLOOK for OREGON

FEBRUARY 1, 1965

Abundant water supplies for Oregon's irrigators in the 1965 season seem assured by the unusually heavy snowpack now present throughout the mountains of the state. Watershed soils are near the saturation point and most reservoirs are nearly full except where they are spilling to make space for runoff from spring snowmelt.

SNOW COVER

Water content of the mountain snowpack, as measured at 210 stations, is much above the 1948-62 average, varying between 140 and 174 percent of average in most of the state. Lowest readings were obtained on the Walla Walla, where the snow is just average. In the Umatilla and Hood River country, the snow is 134 and 128 percent average, respectively, and in the Willamette watersheds, it averages 130 percent.

A few new records of snow water content for February 1 were established in upper watershed elevations at Crater Lake, Paulina Lake and at Derr Guard Station in the Ochoco Mountains; at Tipton, Olive Lake, Schoolmarm and Lucky Strike in the Blue Mountains; and at Aneroid Lake in the Wallowas.

SOIL MOISTURE

Watershed soils are approaching the saturation point as a result of two unseasonably warm, rainy periods which have twice produced destructive floods within one thirty-day period. These wet soils will greatly favor runoff from melting snows next spring throughout the state.

RESERVOIR STORAGE

Stored water supplies are more adequate this year than at any time since these water outlook reports were first prepared in 1935. Total water stored in 25 Oregon reservoirs is 163 percent of the 1948-62 average and 185 percent of last year on February 1. Presently stored water is equal to 82 percent of the total capacity. Many reservoir managers are wisely spilling water to allow space for flows yet to come.

STREAMFLOW

Flow of key Oregon streams* in January, the second consecutive month with severe flooding, varied from a low of 154 percent average on the Deschutes on up to 384 percent on the John Day and a high of 518 percent on the Owyhee.

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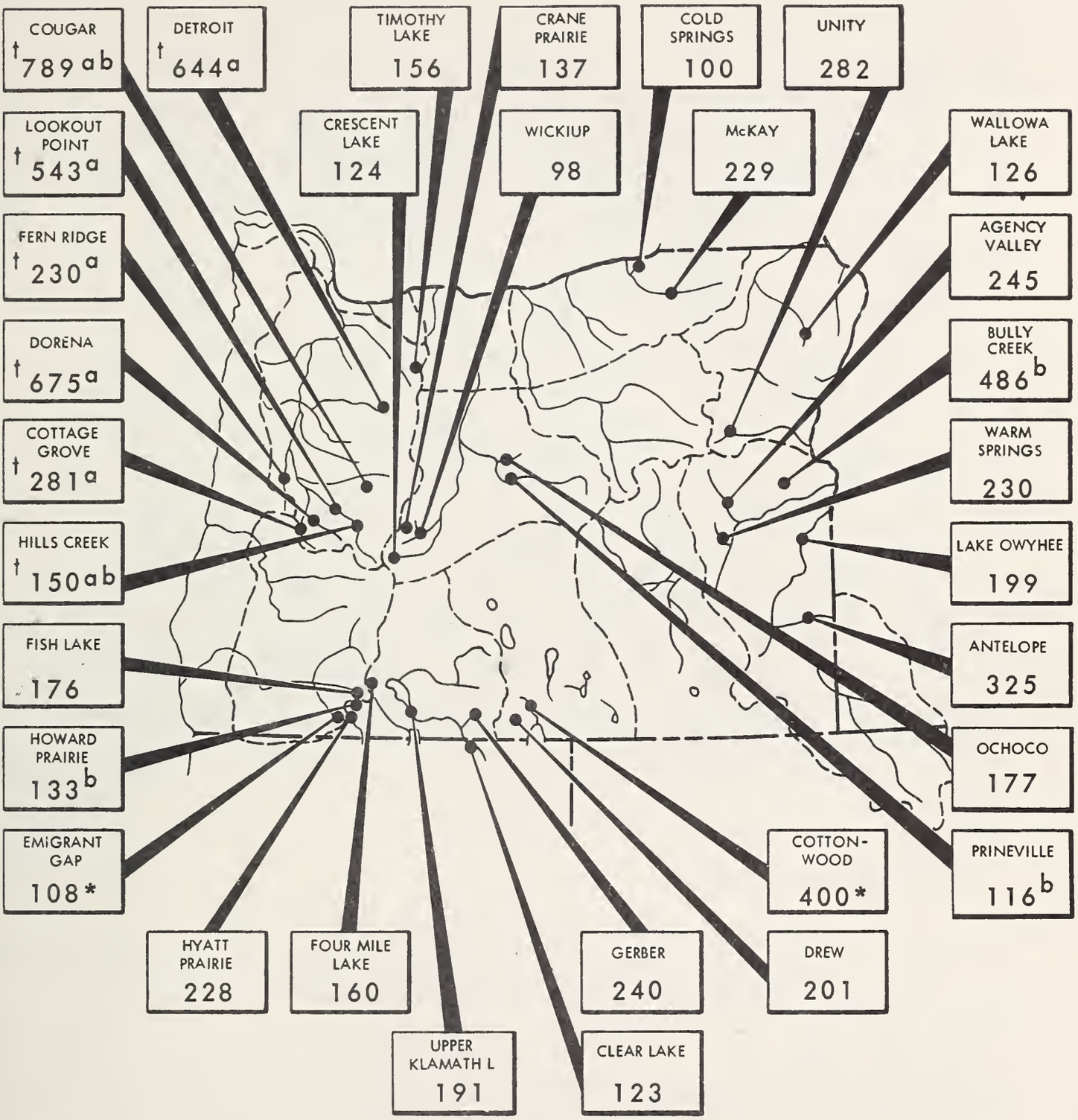
Forecasts of expected streamflow in the 1965 irrigation season, April through September, vary from a bit more than average west of the Cascades on up to about double the average on such streams as the Malheur, Silvies, Silver Creek, and John Day - Middle Fork. Other eastern Oregon streams are forecast at slightly lower amounts as follows: Owyhee 163 percent average, Burnt 153, Powder 140, Grande Ronde 122, Umatilla 123, Walla Walla 96, Crooked 163, Deschutes 119, Klamath Lake 125, and Drews Reservoir near Lakeview 133, (March-July).

Streamflow in the period February 1 through March 31 is forecast to be exceptionally heavy for Klamath Lake and Lake Owyhee.

*Preliminary data furnished by U. S. Geological Survey, Current Records Center, Portland and by many other co-operators.

STORAGE STATUS of OREGON RESERVOIRS
as percent of 1948-62, 15 year average

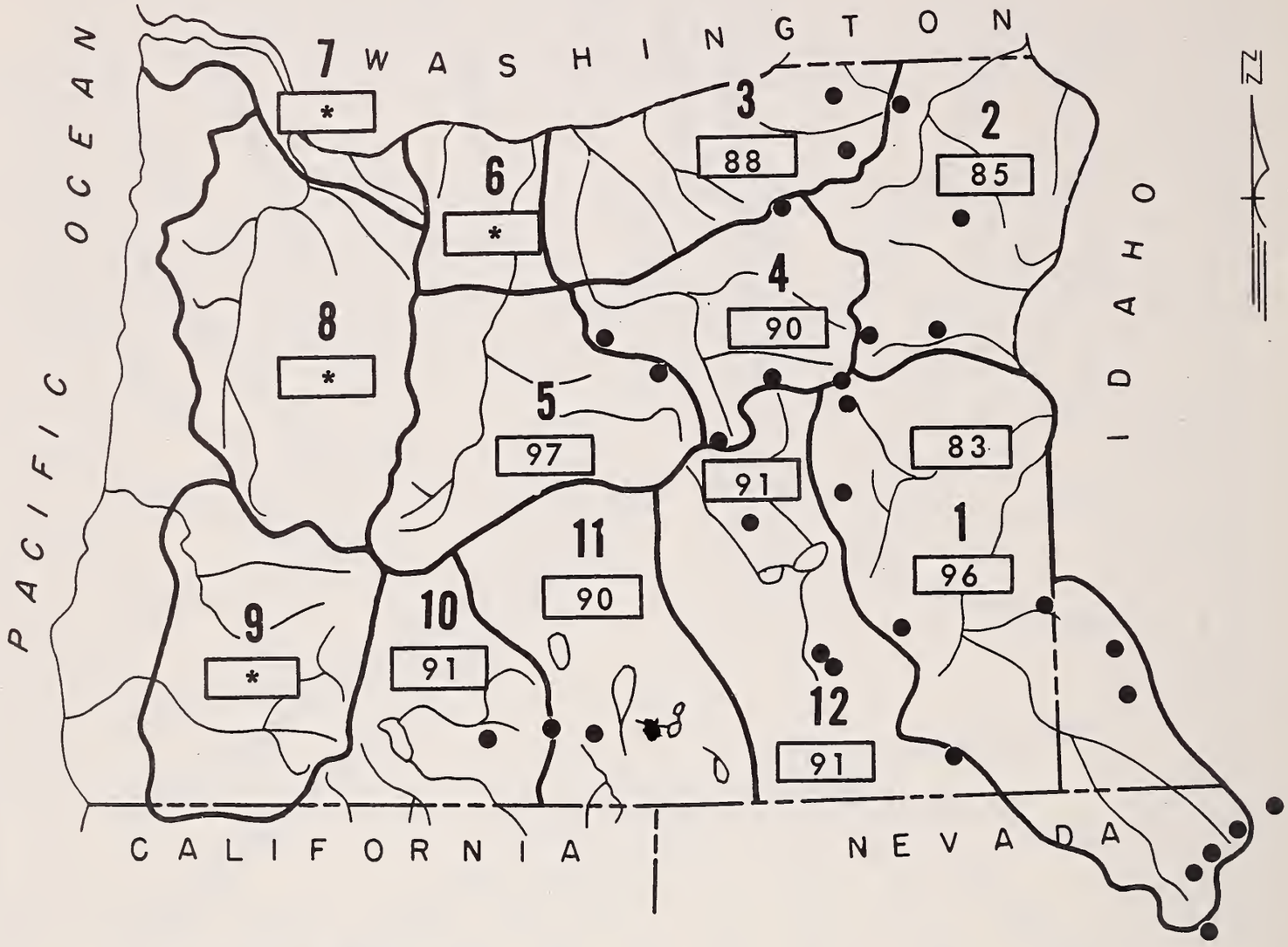
FEBRUARY 1, 1965



(a) Multiple purpose reservoir - space reserved primarily for flood runoff.
(b) Percent of last year on this date due to lack of record.
(*) Using % average for years of record after reconstruction.
(†) Excessive storage is flood water -- these reservoirs are now being lowered in preparation for future flood flows.

MOUNTAIN SOIL MOISTURE in OREGON
as percent of capacity

FEBRUARY 1, 1965

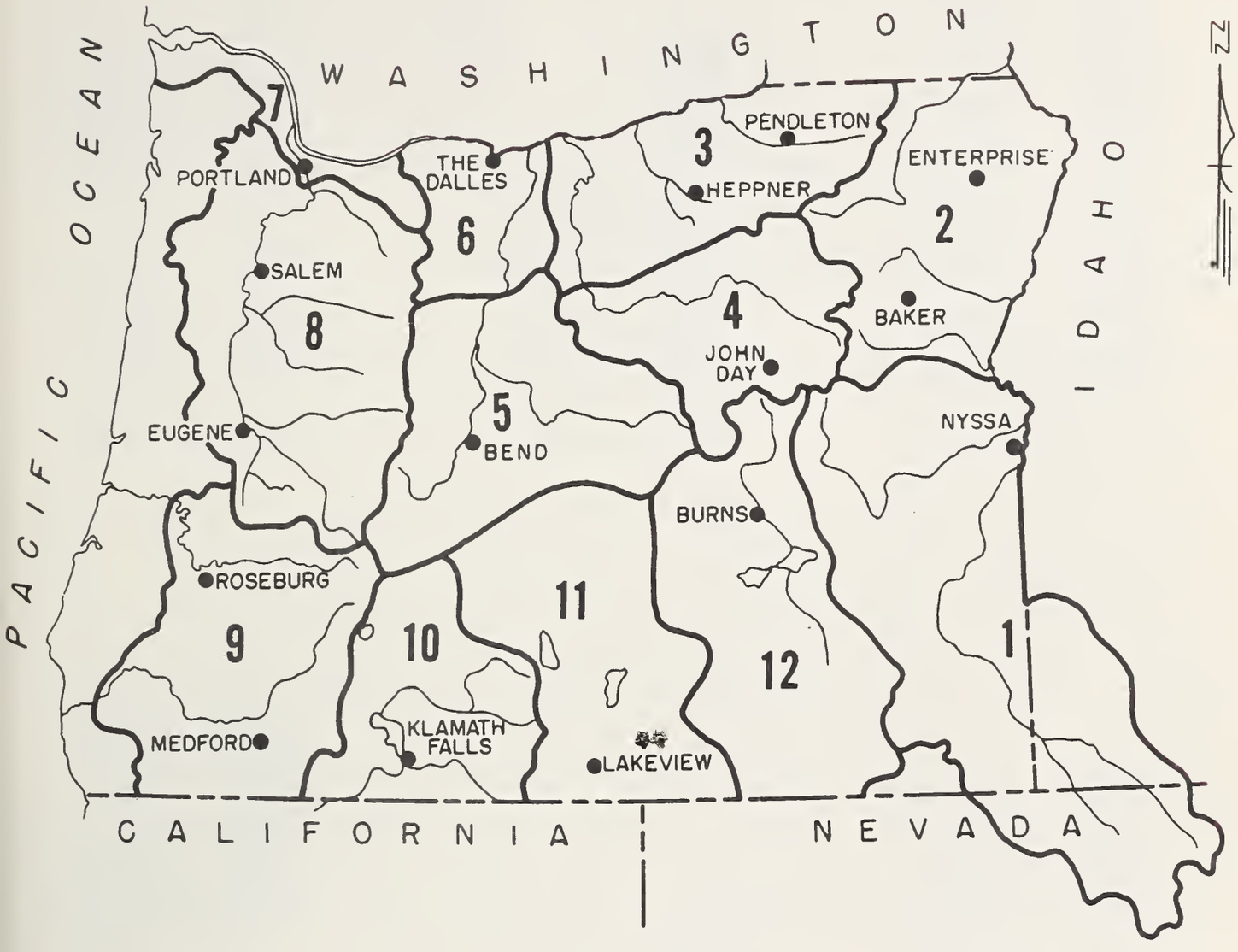


● Soil Moisture Station

**Moisture studies not yet developed in these areas.*

VALLEY PRECIPITATION in OREGON[a]

FEBRUARY 1, 1965

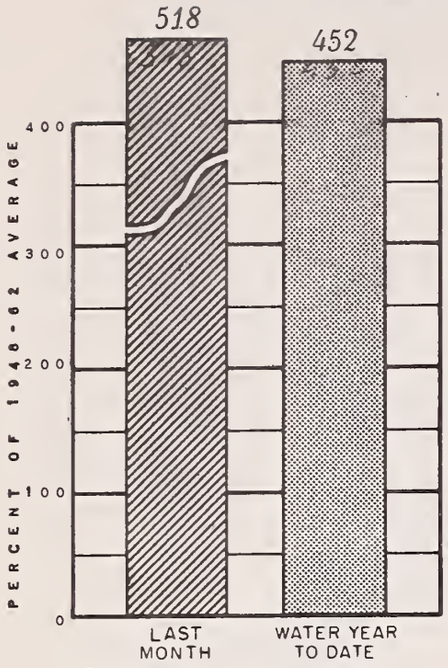


PRECIPITATION as PERCENT of the 1948-62 AVERAGE					
STATION	LAST MONTH	WATER YEAR TO DATE[b]	STATION	LAST MONTH	WATER YEAR TO DATE[b]
Baker Apt.	235	167	Lakeview	140	220
Bend	104	200	Medford Apt.	124	199
Burns	153	198	Nyssa	176	164
Enterprise	174	167	Pendleton Apt.	197	159
Eugene Apt.	133	173	Portland Apt.	122	120
Heppner	173	164	Roseburg Apt.	DISCONTINUED	
John Day	173	158	Salem Apt.	113	126
Klamath Falls Apt.	104	179	The Dalles	100	178
			Owyhee (Nev.)	106	159

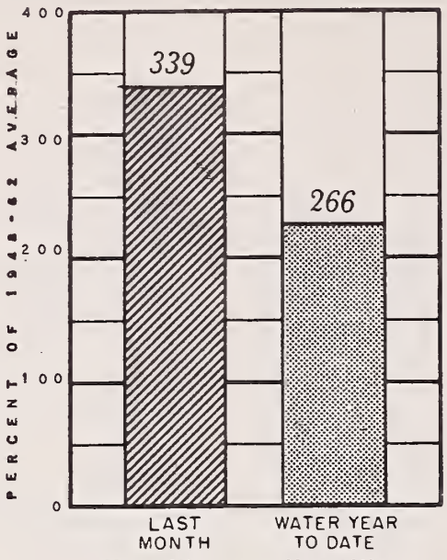
(a) Preliminary data furnished by the U.S. Weather Bureau. (b) Oct. 1 to date. (c) Report delayed.

CURRENT OREGON STREAMFLOW

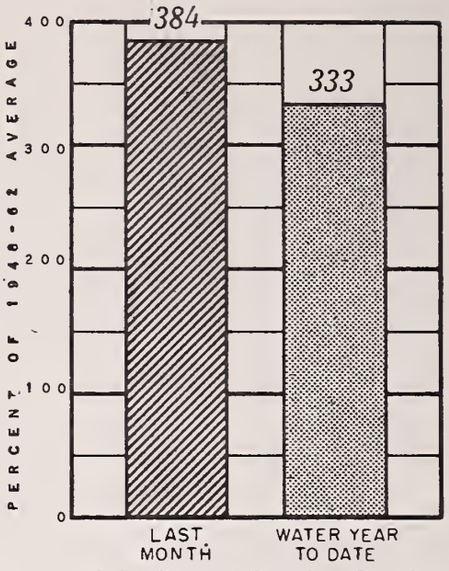
FEBRUARY 1, 1965



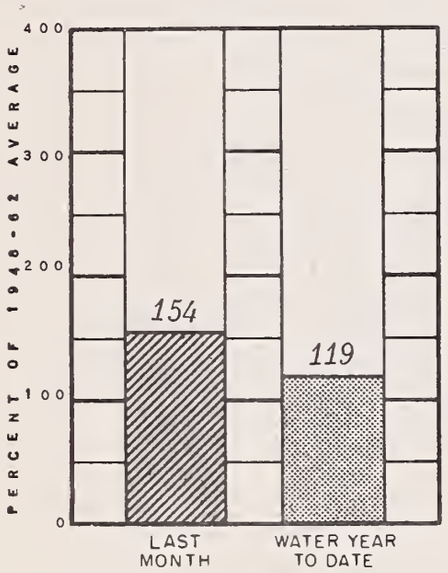
Owyhee Lake net inflow



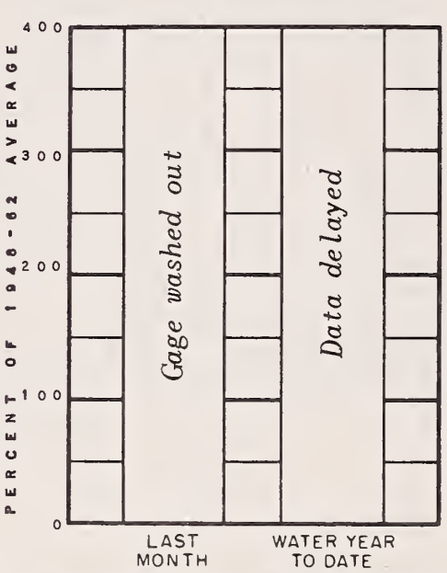
Umatilla near Umatilla



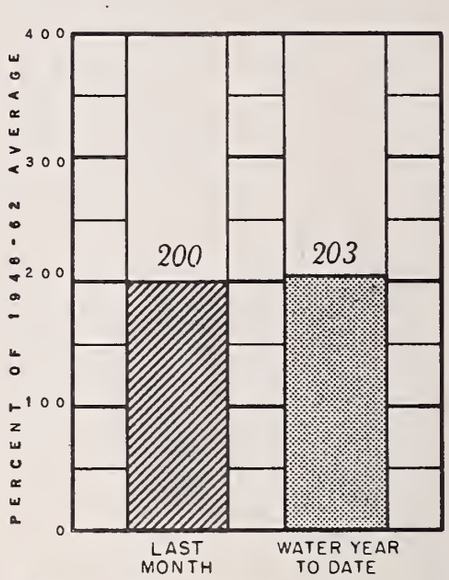
John Day at Service Creek



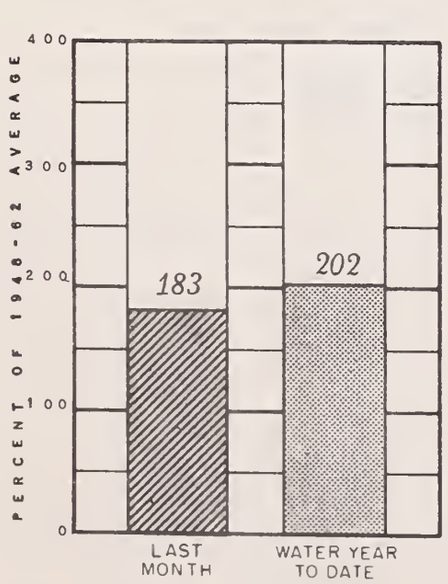
Deschutes at Moody



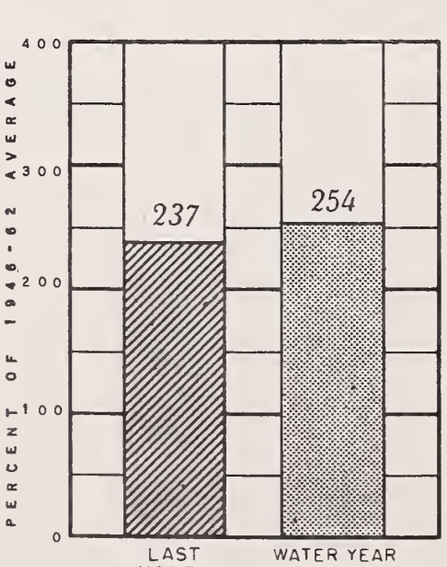
Hood and conduit near Hood River



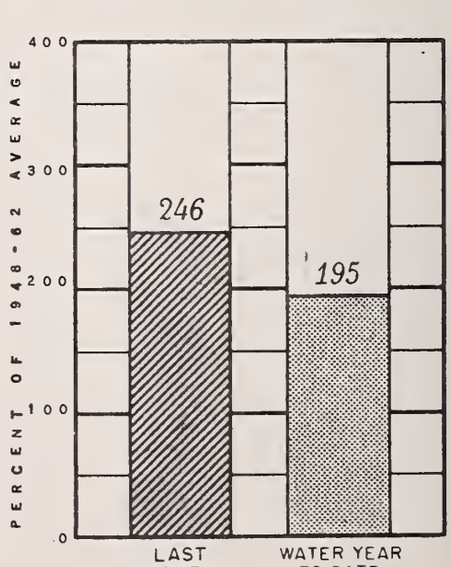
Mid. Fk. Willamette below No. Fk.



Umpqua near Elkton



Rogue at Raygold



Upper Klamath Lake net inflow

Data furnished by U.S. Geological Survey; The Pacific Power and Light Co.; and North and South Boards of Control Owyhee Project.

WATER SUPPLY OUTLOOK
OWYHEE, MALHEUR WATERSHEDS
OREGON

as of

FEBRUARY 1, 1965

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Abundant water supplies in 1965 seem assured for the irrigators of Malheur county as indicated by mid-winter measurements of snow, rainfall, soil-moisture and reservoir conditions. Only cold, dry and windy weather prevailing during the balance of the winter and early spring can dim this excellent water outlook.

SNOW COVER

Water content of the mountain snowpack is much above normal in the southeastern corner of the state and sums up as follows:

On the Owyhee River watersheds	140 percent of 1948-62 average
On the Jordan Creek watersheds	174 percent of 1948-62 average
On Malheur River watersheds	165 percent of 1948-62 average

Due to mid-winter rains and snowmelt, the lower elevations now have little or no snow but snow is adequate at the higher elevations.

SOIL MOISTURE

Watershed soils are primed to near capacity as a result of mid-winter snowmelt and rains and will greatly favor spring runoff.

RESERVOIR STORAGE

Lake Owyhee held about 687,000 acre feet on February 1 compared to an average of 345,000 acre feet and water was being released to make room for flows yet to come. This will furnish a full water allotment for the Owyhee Project.

Antelope Reservoir, which contained about 14,000 acre feet a month ago, has been plagued with breaks in the feeder canal, but now contains 19,200 acre feet. Good flows in Jordan Creek should provide ample water for diversion into Antelope as repairs are completed and should provide adequate water for the Jordan Valley Irrigation District.

Warmsprings, Agency Valley and Bully Creek reservoirs held a total of 202,500 acre feet on February 1 compared with 83,800 acre feet a year ago. This is almost double the water on hand last April 1st for the Warmsprings and Vale Oregon Irrigation Districts.

STREAMFLOW

December and January flows in major Malheur county streams have been many times greater than average.

Forecasts of February through July streamflow for 1965 are double the average and are as follows: Malheur near Drewsey, 267,000 acre feet or 219 percent average; North Fork Malheur at Beulah, 165,000 acre feet or 209 percent average; and Owyhee inflow, 1,161,000 acre feet or 218 percent of the average.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Boulder Creek	Excellent	Average
Bully Creek	Excellent	Average
Cow Creek	Excellent	Average
Jordan Creek	Excellent	Average
Jordan Valley Irrig. Dist.	Excellent	Excellent
McDermitt Creek	Excellent	Average
Oregon Canyon Creek	Excellent	Average
Owyhee Project	Excellent	Excellent
Succor Creek	Excellent	Average
Tenmile Creek	Excellent	Average
Vale Oregon Irrig. Dist.	Excellent	Excellent
Warmsprings Irrig. Dist.	Excellent	Excellent
Willow Creek (Reservoired)	Excellent	Average

RESERVOIR STORAGE (1,000 Ac. Ft.) February 1, 1965

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Agency Valley	60.0	53.5	22.7	21.8
Antelope	55.0	19.2	b	5.9[m]
Bully Creek	31.0	28.2	5.8	- -
Owyhee	715.0	687.0	285.5	345.5
Warmsprings	191.0	120.8	55.3	52.5

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of February 1, 1965

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
2140	Malheur near Drewsey	267	Feb.-July	122	219
		177	April-Sept.	82	216
2175	Malheur, North Fork at Beulah[d]	165	Feb.-July	79	209
		124	April-Sept.	65	191
1825	Owyhee Reservoir net Inflow[k]	1161	Feb.-July	533	218
		620	April-Sept.	381	163

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Bear Creek (Nev.)	7800	72	16.8	b			
Big Bend (Nev.)	6700	48	16.7	1-29-65	16.5	15.6	14.7
Blue Mountain Springs	5900	42	16.9	1-28-65	13.0[f]	7.2	11.7
Crane Prairie	5375	48	18.2	1-4-65	16.0[f]	14.6[f]	16.5[f]
Folly Farm	4450	30	12.5	12-16-64	8.2[f]	8.3[f]	9.0[f]
Jack Creek, Lower (Nev.)	6800	48	8.6	b			
Jordan Valley	4250	48	19.3	12-16-64	14.7[f]	14.6[f]	14.9[f]
Mud Flat (Ida.)	5500	48	12.8	1-26-65	11.4	8.7	6.7
Rodeo Flat (Nev.)	6800	42	11.0	1-29-65	11.0[f]	10.4[f]	10.7
Stinking Water Summit	4800	48	21.9	12-17-64	21.3[f]	20.8[f]	21.1
Taylor Canyon (Nev.)	6200	48	15.1	12-29-64	15.0[f]	12.6	11.6
Triangle (Ida.)	5150	48	16.6	b			

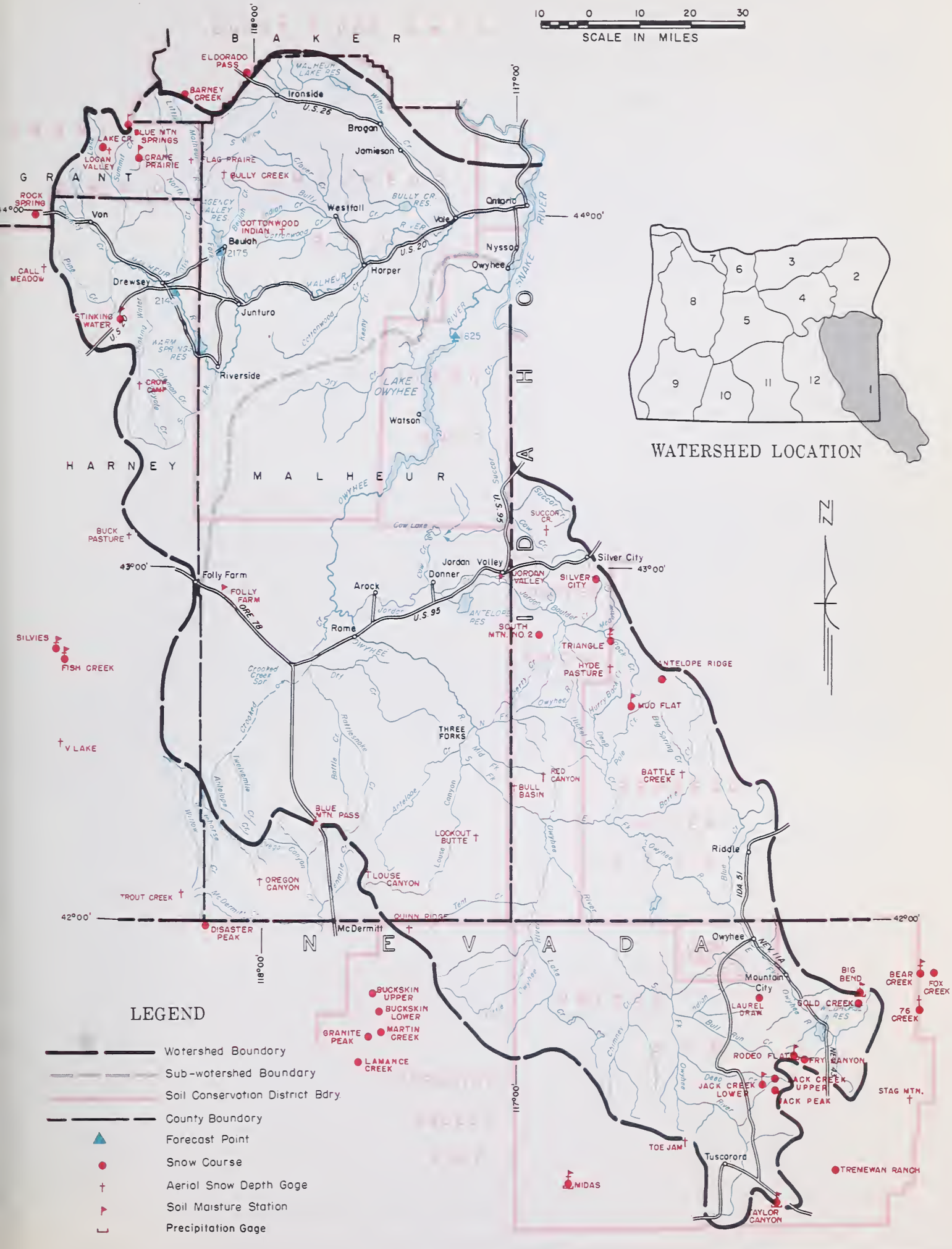
SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	WATER CONTENT (Inches) 1948-62 AVERAGE
Antelope Ridge (Ida.)	5900	1/26	19	3.8	9.7	- -
Barney Creek	5950	c				
Battle Creek[e] (Ida.)	5700	2/1	6	2.4	5.7	2.4[m]
Bear Creek (Nev.)	7800	2/1	55	21.1	11.5	11.7[h]
Big Bend (Nev.)	6700	1/29	30	8.7	8.3	6.4[h]
Blue Mountain Springs	5900	1/28	76	20.8	10.8	10.8
Buck Pasture[e]	5700	2/1	1	0.4	4.8	- -
Buckskin, Lower (Nev.)	6700	c				
Buckskin, Upper (Nev.)	7200	c				

continued

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (l) Ground measurement. (m) Average for 5 or more years in base period.

OWYHEE, MALHEUR WATERSHEDS



SNOW

SNOW COURSE NAME	ELEVATION	CURRENT INFORMATION: DATE OF SURVEY	CURRENT INFORMATION: SNOW DEPTH (Inches)	CURRENT INFORMATION: WATER CONTENT (Inches)	PAST RECORD: WATER CONTENT (Inches) LAST YEAR	PAST RECORD: WATER CONTENT (Inches) 1948-62 AVERAGE
Bull Basin[e] (Ida.)	5600	2/1	0	0.0	2.4	- -
Bully Creek[e]	5300	2/1	9	2.5	3.3	3.0[m]
Call Meadow[e]	5340	2/1	3	0.8	3.1	- -
Columbia Basin[e] (Nev.)	6650	2/1	18	5.2	8.8	- -
Cottonwood-Indian[e]	4320	2/1	0	0.0	2.2	- -
Crane Prairie	5375	[c]				
Crow Camp[e]	5500	2/1	2	0.6	3.0	- -
Disaster Peak (Nev.)	6500	[c]				
Eldorado Pass	4600	1/28	18	4.6	4.6	2.6[h]
Fawn Creek[e] (Nev.)	7000	2/1	6	1.5	- -	- -
Fish Creek[e]	7900	2/1 [j]	60	21.0	14.4	- -
Flag Prairie[e]	4750	2/1	15	4.2	5.9	- -
Fox Creek (Nev.)	6800	[c]				
Fry Canyon (Nev.)	6700	1/29	20	5.8	5.5	6.0[h]
Gold Creek (Nev.)	6600	1/29	20	4.5	7.0	4.7[h]
Granite Peak (Nev.)	7800	1/28	48	17.0	6.2	7.5[h]
Hyde Pasture[e] (Ida.)	5800	2/1	12	4.8	7.8	3.4[m]
Jack Creek, Lower (Nev.)	6800	[c]				
Jack Creek, Upper[e] (Nev.)	7250	2/1	12	3.5	2.3	6.8[h]
Jacks Peak (Nev.)	8420	[c]				
Lake Creek	5120	2/1 [j]	39	13.1	8.2	5.8[m]
Logan Valley	5100	2/1	26	8.7	9.7	4.8[m]
Lookout Butte[e]	5650	2/1	0	0.0	0.2	- -
Louse Canyon[e]	6440	2/1	3	1.0	1.4	- -
Martin Creek (Nev.)	6700	1/28	29	10.0	3.0	5.8[h]
Merritt Mountain[e] (Nev.)	7000	2/1	6	1.8	- -	- -
Midas[e] (Nev.)	7200	2/1	1	0.3	3.0	- -
Mud Flat (Ida.)	5500	1/26	22	4.6	7.0	- -
Oregon Canyon[e]	6950	2/1	6	2.1	4.8	- -
Quinn Ridge[e] (Nev.)	6300	2/1	6	2.1	1.7	- -
Red Canyon[e] (Ida.)	6500	2/1	15	7.0	7.3	- -
Rock Spring	5100	1/29	23	5.9	4.6	4.2
Rodeo Flat (Nev.)	6800	1/29	15	4.7	4.8	5.6[h]
76 Creek[e] (Nev.)	7100	2/1	27	8.1	6.8	7.4[h]
Silver City[e] (Ida.)	6400	2/1 [j]	46	18.4	11.8	9.7
Silvies[e]	6900	2/1 [j]	24	8.4	6.5	- -
South Mountain #2 (Ida.)	6340	2/2	31	12.4	10.2	7.4
Stinking Water	4800	2/1	4	1.3	3.7	3.3[h]
Succor Creek[e] (Ida.)	6100	2/1	15	6.0	6.5	- -
Taylor Canyon (Nev.)	6200	1/29	16	3.8	4.3	3.9
Toe Jam[e] (Nev.)	7700	2/1	19	5.5	5.5	- -
Tremewan Ranch (Nev.)	5700	1/29	5	1.5	3.2	1.7[h]
Triangle[e] (Ida.)	5150	2/1	2	0.8	2.2	- -
Trout Creek[e]	7800	2/1	16	5.6	2.9	- -
"V" Lake[e]	6600	2/1	10	3.5	1.9	- -

"The Conservation of Water begins with the Snow Survey"

Area 2

WATER SUPPLY OUTLOOK
BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS
OREGON

as of

FEBRUARY 1, 1965

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Abundant water supplies in 1965 seem assured for the irrigators in Baker, Union, and Wallowa counties as indicated by a much above average snowpack, wet soils, and excellent reservoir water supplies. Only cold, dry and windy weather prevailing during the balance of the winter and early spring can dim this excellent water outlook.

SNOW COVER

Snow surveys on 24 sites in northeastern Oregon show water content of the mountain snowpack is much greater than average with a new record established at Aneroid Lake. Snow on the Wallowa watershed is 170 percent of the 1948-62 average; on the Grande Ronde, 145 percent; the Powder, 171 percent and the Burnt, 174 percent.

SOIL MOISTURE

Watershed soils are nearing the saturation point as a result of mid-winter runoff from snow melt and rainfall. Soil moisture measurements from three stations indicate the moisture has increased from 79 percent of capacity on January 1 to 85 percent on February 1. Wet soils favor a satisfactory runoff from melting snow next spring.

RESERVOIR STORAGE

Mid-winter flow into reservoirs has been very much above average. Wallowa Lake now contains 27,400 acre feet compared with 21,800 last year. Unity Reservoir holds 18,900 acre feet compared with 8,800 last year.

STREAMFLOW

Forecasts of streamflow for the irrigation season, April 1 through September 30, are much above the 1948-62 average and are as follows: Burnt River, 151 percent; Powder River, 140 percent; Imnaha River, 153 percent; East Fork Wallowa River, 128 percent; Hurricane Creek, 123 percent; Lostine River, 135 percent; Bear Creek, 122 percent; Catherine Creek, 167 percent, and Grande Ronde at La Grande, 122 percent.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

WATER SUPPLY OUTLOOK expressed as "Poor", "Foir" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Alder Slope	Excellent	Average
Baker Valley	Excellent	Average
Big Creek	Excellent	Average
Clover Cr. (nr. N. Powder)	Excellent	Average
Cove	Excellent	Average
Durkee	Excellent	Average
Eagle Valley	Excellent	Average
Elgin	Excellent	Average
Enterprise-Joseph	Excellent	Average
Hereford-Bridgeport	Excellent	Average
Imnaha River	Excellent	Average
La Grande-Island City	Excellent	Average
Lostine-Wallowa	Excellent	Average
No. Powder River-Wolf Cr.	Excellent	Average
Pine Valley	Excellent	Average
Powder River-Elk Creek	Excellent	Average
Summerville	Excellent	Average
Sumpter Valley	Excellent	Average
Union-Hot Lake	Excellent	Average
Unity	Excellent	Average

RESERVOIR STORAGE (1,000 Ac. Ft.) February 1, 1965

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Unity	25.2	18.9	8.8	6.7
Wallowa Lake	37.5	27.4	21.8	17.7

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of February 1, 1965

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
3305	Bear near Wallowa	88	April-Sept.	72	122
2730	Burnt near Hereford[d]	92	Feb.-June	53	174
		62	April-Sept.	41	151
3200	Catherine near Union	122	April-Sept.	73	167
3190	Grande Ronde at La Grande	289	March-Sept.	246	117
		248	April-Sept.	203	122
3295	Hurricane near Joseph	58.6	April-Sept.	48	123
2920	Imnaha at Imnaha	487	April-Sept.	318	153
3300	Lostine near Lostine	177	April-Sept.	131	135
2755	Powder near Baker	92	April-July	66	139
		94	April-Sept.	67	140
3250	Wallowa, East Fork near Joseph[d]	16.1	Feb.-Sept.	13.4	120
		15.4	April-Sept.	12.0	128

SOIL MOISTURE

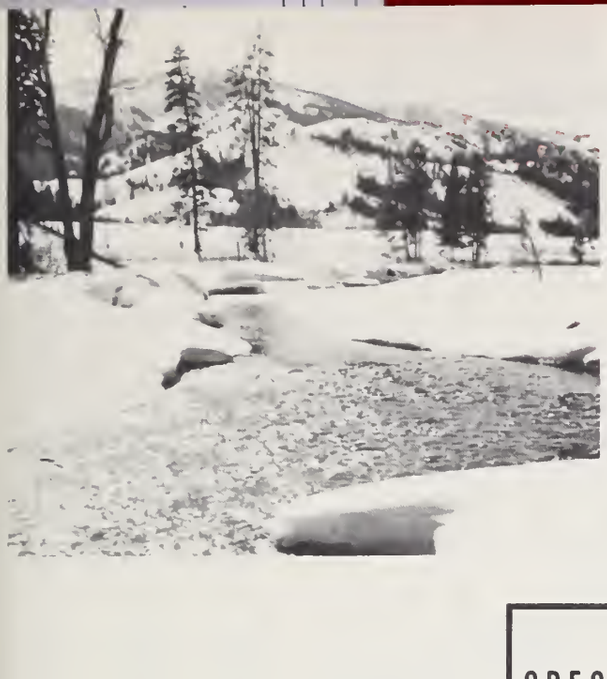
STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Blue Mountain Summit	5100	36	16.8	1-28-65	12.3	9.3	11.7
Emigrant Springs	3925	48	22.3	1-28-65	21.9	19.2	18.9
Tollgate	5070	48	23.6	1-26-65	19.0	18.9	21.0

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1948-62 AVERAGE
Aneroid Lake #1	7480	1/31	118	42.1	21.5	24.1
Aneroid Lake #2	7000	1/31	102	38.1	18.1	18.7
Anthony Lake	7125	1/26	88	28.4	16.8	17.3[h]
Bald Mountain[e] (Ore.)	6700	1/30	54	18.4	17.2	- -
Barney Creek	5950	c				
Beaver Reservoir	5340	1/26	43	9.2	8.2	7.7
Big Sheep[e]	6200	2/2	89	30.3	14.6	- -
Blue Mountain Summit	5098	1/28	47	10.7	6.8	6.1[h]
Bourne	5800	1/27	74	19.9	10.9	11.4[h]
Clover Creek	4100	Not surveyed				
County Line	4800	1/29	27	7.9	5.7	4.7[h]
Dooley Mountain	5430	1/29	36	11.4	7.0	6.0
Eilertson Meadows	5400	1/26	55	15.0	8.8	8.1[h]
Eldorado Pass	4600	1/28	18	4.7	4.6	2.6
Gold Center	5340	1/27	53	14.0	8.8	9.1
Goodrich Lake[e]	6775	1/30	131	39.3	- -	24.7[h]
Little Alps	6200	1/26	56	12.6	8.4	- -
Lucky Strike	5050	2/1	46	15.4	9.0	8.7[h]
Meacham	4300	1/28	41	12.1	9.4	6.8
Mirror Lake[e]	8200	1/31	214	72.8	42.4	- -
Moss Spring	5850	1/31	72	24.2	14.4	16.2
Schneider Meadows	5400	1/29	100	28.3	18.0	20.8
Schoolmarm	4775	1/29	22	6.0	5.1	4.1
Standley[e]	7400	Marker down				
Taylor Green	5740	1/31	49	15.7	- -	- -
Tipton	5100	1/28	52	13.7	8.2	7.6[h]
Tollgat[e]	5070	1/26	76	18.5	23.2	18.3
TV Ridge[e]	7000	1/31	54	18.4	Station moved--old data not comparable.	



Area 3

WATER SUPPLY OUTLOOK
UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS
OREGON

as of

FEBRUARY 1, 1965

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Adequate water supplies in 1965 seem assured for irrigators in Umatilla, Morrow and Gilliam counties as indicated by much above average snowpack, wet soils and excellent reservoir water supplies. Only cold, dry and windy weather prevailing during the balance of the winter and early spring can dim this excellent water outlook.

SNOW COVER

Water content of the mountain snowpack, as measured on 8 local snow courses, is 134 percent of the 1948-62 average on the Umatilla but only 101 percent average on the Walla Walla.

SOIL MOISTURE

Watershed soils are nearing the saturation point as a result of mid-winter runoff from snowmelt and rainfall. Soil moisture measurements from four stations indicate the moisture has increased from 82 percent of capacity on January 1 to 88 percent on February 1. Wet soils favor a satisfactory runoff from snowmelt next spring.

RESERVOIR STORAGE

Breaks in the feeder canal have prevented a rapid filling of Cold Springs Reservoir. However, it now contains 29,600 acre feet which is average for the first of February. McKay Reservoir is holding 66,700 acre feet, which is more than double the February 1 average. Water still to flow from these watersheds is adequate to more than fill these reservoirs.

STREAMFLOW

Mid-winter flows of these streams have been very heavy. The Umatilla flowed better than three times its average amount in December and then repeated in January.

Forecasts of streamflow for the irrigation season, April 1 through September 30, are all above the 1948-62 average on the Umatilla watershed. McKay Creek is expected to flow 134 percent average, Butter Creek (for the March-July period), 105 percent; Umatilla near Gibbon, 136 percent; and Umatilla at Pendleton, 123 percent.

Flow of the South Fork of the Walla Walla, April through September, is expected to be only 96 percent average due to less abundant snowpack.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Birch Creek	Excellent	Average
Butter Creek	Excellent	Average
Dry Creek	Average	Average
Dugger Creek	Average	Average
Johnson Creek	Average	Average
McKay Creek	Excellent	Average
Mill Creek	Average	Average
Mud Creek	Average	Average
Pine Creek	Average	Average
Rhea Creek	Excellent	Average
Rock Creek	Excellent	Average
Umatilla R. (Cold Springs Reservoir)	Excellent	Average
Umatilla River, Main	Excellent	Average
Umatilla River (McKay Res.)	Excellent	Average
Walla Walla River, Little	Average	Average
Walla Walla River, Main	Average	Average
Walla Walla River, No. Fk.	Average	Average
Walla Walla River, So. Fk.	Average	Average
Willow Creek	Excellent	Average

RESERVOIR STORAGE (1,000 Ac. Ft.) February 1, 1965

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Cold Springs	50.0	29.6	36.7	29.6
McKay	73.8	66.7	10.3	29.1

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of February 1, 1965

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
0320	Butter Creek near Pine City	15.2	March-July	14.5	105
0225	McKay near Pilot Rock	82	Feb.-July	62	132
		43	April-Sept.	32	134
0200	Umatilla near Gibbon	148	March-Sept.	116	128
		127	April-Sept.	93	136
0210	Umatilla at Pendleton	293	March-Sept.	247	119
		226	April-Sept.	183	123
0100	Walla Walla, South Fork near Milton	86	April-July	89	97
		73	April-Sept.	76	96

SOIL MOISTURE

STATION NAME	STATION ELEVATION	PROFILE (Inches) DEPTH	PROFILE (Inches) CAPACITY	SOIL MOISTURE (Inches) DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Athena-Weston	1700	48	18.7	2-4-65	14.6	13.2	16.7
Battle Mountain Summit	4340	48	13.8	1-27-65	13.8	12.5[f]	11.9[f]
Emigrant Springs	3925	48	22.3	1-28-65	21.9	19.0[f]	17.2[f]
Tollgate	5070	48	23.6	1-26-65	19.0	18.9	21.0

SNOW

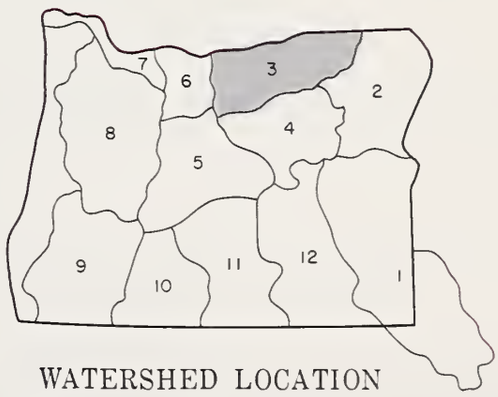
SNOW COURSE NAME	ELEVATION	CURRENT INFORMATION DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	PAST RECORD WATER CONTENT (Inches) LAST YEAR	1948-62 AVERAGE
Arbuckle Mountain	5400	1/19	34	10.0	8.4	8.3[m]
Battle Mountain Summit	4340	1/27	16	3.6	1.9	2.2[m]
Blue Mountain Camp	4300	1/26	55	13.4	15.8	- -
Emigrant Springs	3925	1/28	21	7.0	5.4	5.4[h]
Lucky Strike	5050	2/1	46	15.4	9.0	8.7[h]
Meacham	4300	1/28	41	12.1	9.4	6.8
Tollgate	5070	1/26	76	18.5	23.2	18.3
Weston Mountain	2700	1/26	14	3.2	0.6	- -

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records.

UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Soil Moisture Station



WATERSHED LOCATION

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
UPPER JOHN DAY WATERSHEDS
OREGON

as of

FEBRUARY 1, 1965

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Although people in the John Day basin have suffered heavy losses from two severe floods within one thirty-day period, they can look ahead to abundant water supplies for the 1965 irrigation season.

SNOW COVER

Measurements of the snowpack at 19 snow courses indicates the water in the snow is now 163 percent of the 1948-62 average and about 160 percent of the amount available on February 1 a year ago.

New recrods of water content have been established at 5 of the 19 stations. These stations are Derr, Tipton, Olive Lake, Schoolmarm and Lucky Strike. At the Olive Lake snow course, measured continuously for 30 years by employees of the California-Pacific Utilities Company (formerly Eastern Oregon Light and Power Co.), the snow surveyors found 62 inches of snow with a record water content of 21.2 inches. The previous high was in 1952 when 18.9 inches of water were measured in the snow.

SOIL MOISTURE

Watershed soils are now wet up to 90 percent of capacity as measured at 7 local stations.

STREAMFLOW

Flow of the John Day river has been from three to five times the average in the December-January period according to the U. S. Geological Survey.

Forecasts of expected streamflow in the 1965 irrigation season, April 1 through September 30, on the main John Day at Prairie City are 151 percent of the 1948-62 average; on Strawberry Creek, 131 percent average; and on the Middle Fork John Day, 159 percent of average.

Only cold, dry and windy weather prevailing during the balance of the winter and early spring can dim this excellent outlook.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Beech Creek	Excellent	Average
Beech Creek-Fox-Long Cr.	Excellent	Average
Bridge-Mountain Creeks	Excellent	Average
Camas Creek	Excellent	Average
Indian-Pine Creeks	Excellent	Average
John Day River, Main Fork	Excellent	Average
John Day River, Mid. Fork	Excellent	Average
John Day River, N. Fork	Excellent	Average
John Day River, S. Fork	Excellent	Average
Monument-Kimberly	Excellent	Average
Strawberry Creek	Excellent	Average

RESERVOIR STORAGE (1,000 Ac. Ft.) February 1, 1965

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of February 1, 1965

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
0385	John Day at Prairie City	87	March-July	56	155
		77	April-Sept.	51	151
0440	John Day, Middle Fork at Ritter	245	March-July	153	160
		208	April-Sept.	131	159
0375	Strawberry near Prairie City	10.8	March-July	8.2	132
		11.5	April-Sept.	8.8	131

SOIL MOISTURE

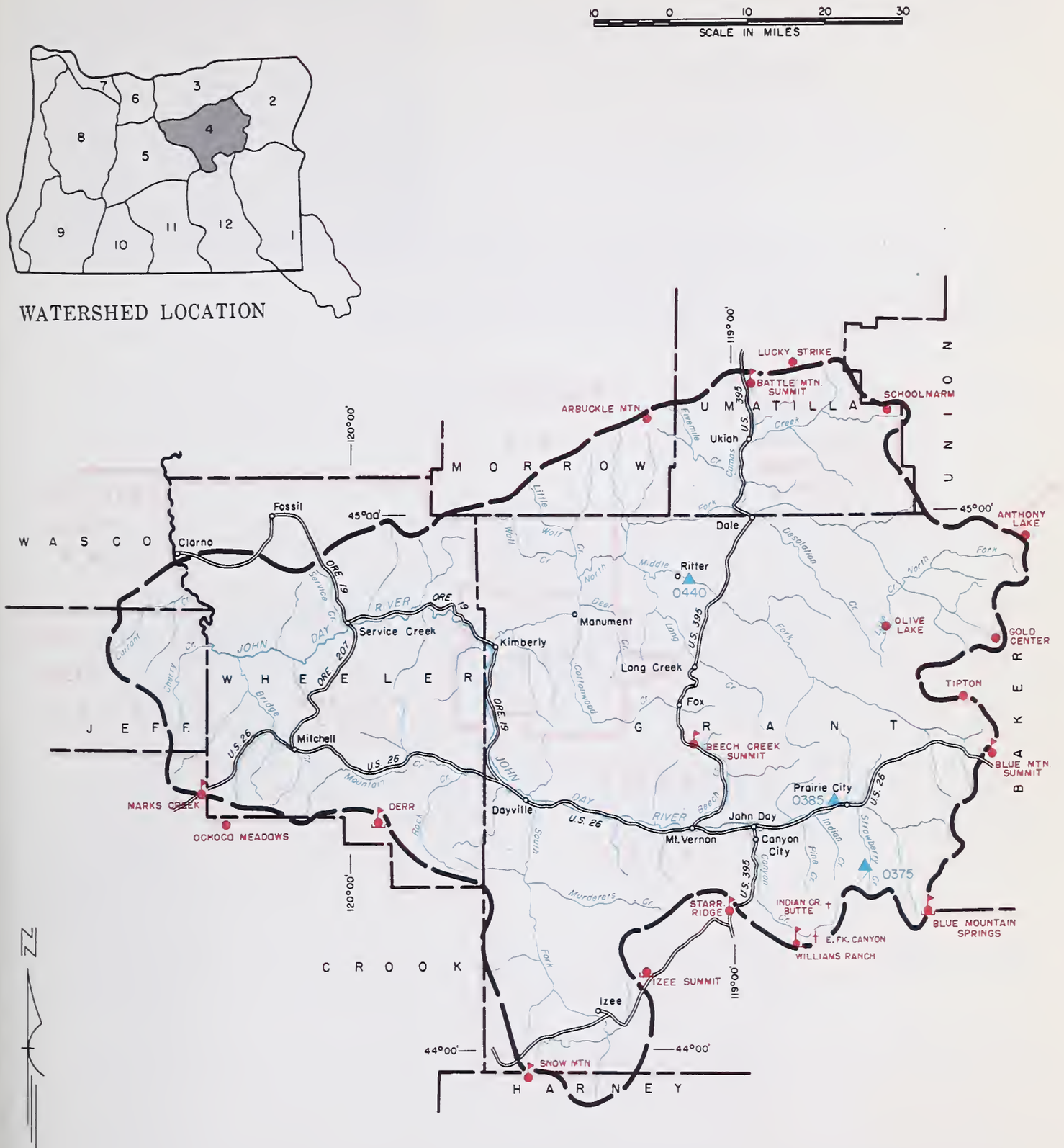
STATION NAME	ELEVATION	PROFILE (Inches) DEPTH	PROFILE (Inches) CAPACITY	SOIL MOISTURE (Inches) DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Battle Mountain Summit	4340	48	13.8	1-27-65	13.8	12.5	11.9[f]
Blue Mountain Springs	5900	42	16.9	1-28-65	13.0	7.2[f]	12.3[f]
Blue Mountain Summit	5100	36	16.8	1-28-65	12.3	9.3	11.7
Derr	5670	24	9.0	1-27-65	8.4	- -	- -
Marks Creek	4540	36	14.1	1-29-65	13.8	9.3	10.1
Snow Mountain	6300	48	16.7	2-2-65	16.3	12.2	13.4
Starr Ridge	5150	36	10.6	1-27-65	10.3	8.1	10.4

SNOW

SNOW COURSE NAME	ELEVATION	CURRENT INFORMATION DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	PAST RECORD WATER CONTENT (Inches) LAST YEAR	1948-62 AVERAGE
Anthony Lake	7125	1/26	88	28.4	16.8	17.3[h]
Arbuckle Mountain	5400	1/19	34	10.0	8.4	8.3
Battle Mountain Summit	4340	1/27	16	3.6	1.9	2.2[m]
Beech Creek Summit	4800	1/27	22	5.8	4.6	4.3[h]
Blue Mountain Springs	5900	1/28	76	20.8	10.8	10.8
Blue Mountain Summit	5098	1/28	47	10.7	6.8	6.1
Derr	5670	1/27	52	17.2	5.3	6.9
East Fork Canyon[e]	5700	1/31	27	7.3	- -	- -
Gold Center	5340	1/27	53	14.0	8.8	9.1
Indian Creek Butte[e]	6550	1/31	84	22.7	- -	- -
Izee Summit	5293	1/27	31	8.7	6.4	6.2[h]
Lucky Strike	5050	2/1	46	15.4	9.0	8.7[h]
Marks Creek	4540	1/29	13	4.4	4.4	3.6
Ochoco Meadows	5200	1/30	26	8.8	7.6	7.8
Olive Lake	6000	2/2	62	21.2	13.8	13.0
Schoolmarm	4775	1/29	22	6.0	5.1	4.1[h]
Snow Mountain	6300	2/2	45	16.3	9.1	- -
Starr Ridge	5150	1/27	31	8.0	5.2	4.6[h]
Tipton	5100	1/28	52	13.7	8.2	7.6[h]
Williams Ranch	4500	[b]				

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

UPPER JOHN DAY WATERSHEDS



LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Soil Moisture Station
- Aerial Snow Depth Gage
- Precipitation Gage

OR-4c

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
UPPER DESCHUTES, CROOKED WATERSHEDS
OREGON

as of

FEBRUARY 1, 1965

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Adequate water supplies in 1965 seem assured for irrigators in the Crooked River and Deschutes basins as indicated by much above average snowpack, wet soils and excellent reservoir water supplies.

SNOW COVER

Water content of the mountain snowpack, as measured at 23 snow courses, is much above the 1948-62 average for February 1. Water in the snow is 139 percent average on the Deschutes and 168 percent average on the Crooked.

New records of water content in the snowpack for February 1 were established at Derr Guard Station on the Crooked watershed and on Paulina Lake and Windigo Pass on the Deschutes. At Paulina Lake the snow surveyors measured 67 inches of snow, which contained 24.2 inches of water.

SOIL MOISTURE

Watershed soils are now nearing the saturation point. An average of the data from three soil stations on the Crooked River watershed indicates soils are now wet up to 97 percent of their capacity to hold water. The situation is likely very similar on the Deschutes and will greatly favor runoff from snowmelt this coming R spring.

RESERVOIR STORAGE

Stored water supplies on Crooked River watersheds are excellent -- Ochoco Reservoir held 37,100 acre feet on February 1 and Prineville Reservoir had 122,000 acre feet - both are spilling to make room for more yet to come.

On the Deschutes the stored water is equally good with 58,700 acre feet in Crane Prairie, 158,800 acre feet in Wickiup and 61,500 in Crescent Lake. These storage amounts are all well above the figure for this date a year ago.

STREAMFLOW

Flow of the Deschutes at Moody* was 172 percent average in December and 154 percent average in January, affected only very little by flood conditions.

Forecasts of streamflow for the 1965 irrigation season, April through September, are 119 percent of the 1948-62 average for Deschutes at Benham Falls; 142 percent average for Little Deschutes at Lapine.

continued --

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

Flow of Tumalo and Squaw creeks for the six month's irrigation period is expected to be 111 and 116 percent of average respectively.

Crooked River near Post should flow about 163 percent average April through September and Ochoco Reservoir should receive an inflow about 150 percent average for the same six months.

* Preliminary data from U. S. Geological Survey, Portland, Oregon.

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Arnold Irrigation District	Excellent	Average
Bear Creek	Excellent	Average
Beaver Creek	Excellent	Average
Camp Creek	Excellent	Average
Central Ore. Irrig. Dist.	Excellent	Average
Crooked River	Excellent	Average
Deschutes River	Excellent	Average
Hay-Trout Creeks	Excellent	Average
Lone Pine Irrig. Dist.	Excellent	Average
Mill Creek	Excellent	Average
North Unit Irrig. Dist.	Excellent	Average
Ochoco Creek	Excellent	Average
Sisters Irrigation Dist.	Excellent	Average
Snow Creek Irrig. Dist.	Excellent	Average
Squaw Creek Irrig. Dist.	Excellent	Average
Swalley Ditch	Excellent	Average
Tumalo Project	Excellent	Average
Walker Basin Irrig. Dist.	Excellent	Average

RESERVOIR STORAGE (1,000 Ac. Ft.) February 1, 1965

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Crane Prairie	55.3	58.7	b	42.6
Crescent Lake	117.2	61.5	48.0	49.5
Ochoco	47.5	37.1	23.4	21.1
Prineville	153.0	122.0	104.5	- -
Wickiup	182.0	158.8	146.4	161.7

Note: Current storage figure for Crescent Lake includes 5360 acre feet of known dead and inactive storage.

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of February 1, 1965

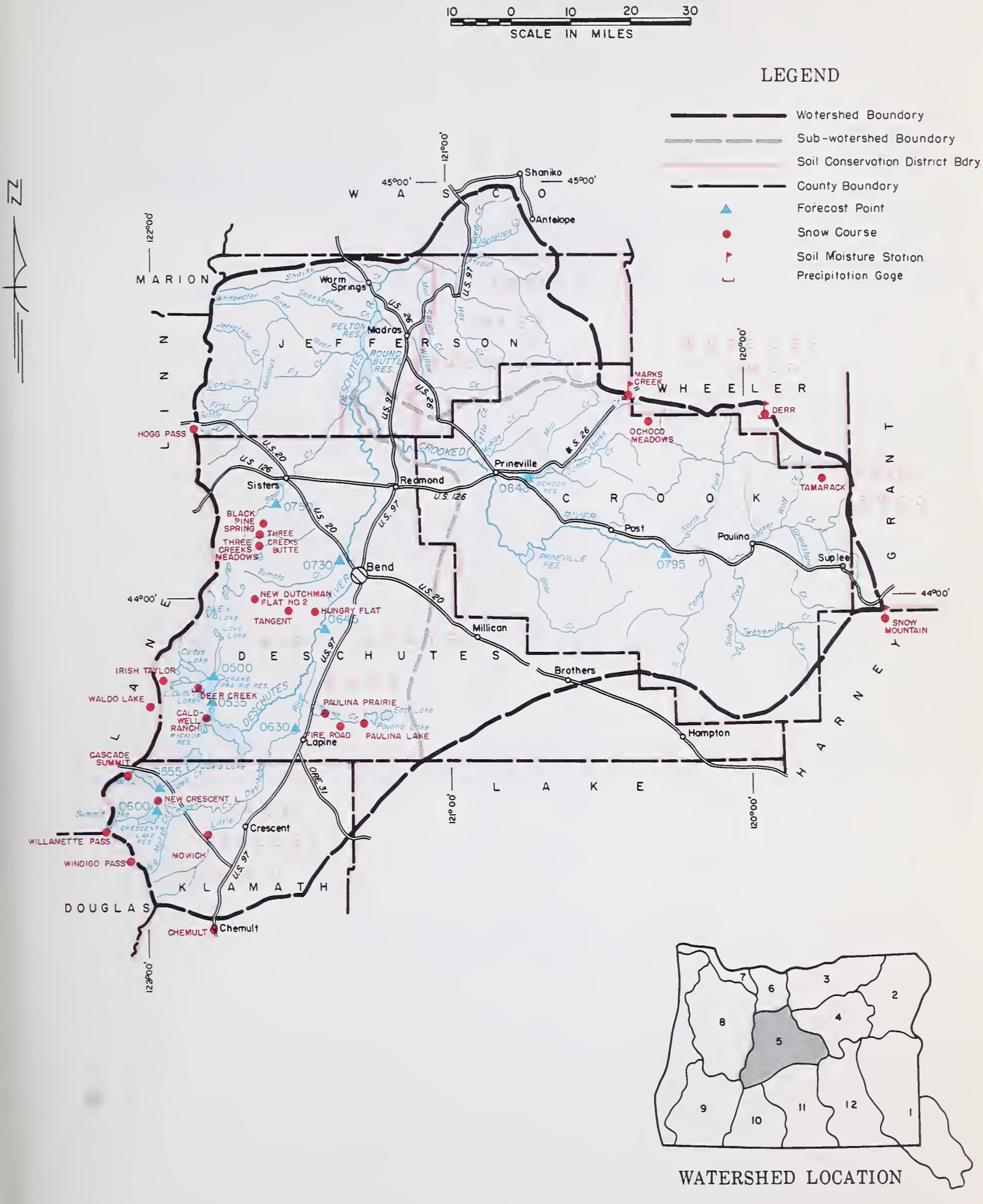
FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
0535	Crane Prairie Reservoir total inflow	185	April-Sept.	143	129
0600	Crescent at Crescent Lake[d]	42	March-July	30	140
		45	April-Sept.	33	136
0795	Crooked near Post	336	Feb.-July	201	167
		204	April-Sept.	125	163
0645	Deschutes at Benham Falls[d]	500	April-July	417	120
		750	April-Sept.	631	119
0500	Deschutes below Snow Creek	139	Feb.-Sept.	89	156
		115	April-Sept.	75	153
0630	Deschutes, Little near Lapine[d]	243	Feb.-July	130	187
		160	April-Sept.	113	142
0848	Ochoco Reservoir net Inflow	76	Feb.-June	50	152
		48	April-Sept.	32	150
0555	Odell near Crescent	42	April-Sept.	34	124
0750	Squaw near Sisters	65	April-Sept.	56	116
0730	Tumalo near Bend[d]	60	April-Sept.	54	111

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Derr	5670	24	9.0	1-27-65	8.4	- -	- -
Marks Creek	4540	36	14.1	1-29-65	13.8	9.3	10.1
Snow Mountain	6300	48	16.7	2-2-65	16.3	12.2	13.4

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

UPPER DESCHUTES, CROOKED WATERSHEDS



SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1948-62 AVERAGE
Black Pine Spring	4600	2/1	T	T	5.4	4.1[h]
Caldwell Ranch	4400	c				
Cascade Summit	4880	1/28	80	32.4	21.8	21.9
Chemult	4760	1/27	39	12.5	8.5	9.1
Deer Creek	4554	1/28	60	23.4	- -	- -
Derr	5670	1/27	52	17.2	5.3	6.9
Fire Road	5050	1/20	30	9.3	5.0	5.9[h]
Hogg Pass	4755	1/28	111	39.9	32.5	29.0
Hungry Flat	4400	1/21	15	4.8	6.0	5.8[h]
Irish-Taylor	5500	1/26	105	35.6	29.0	26.8
Marks Creek	4540	1/29	14	4.8	4.4	3.6
Mowich	4700	Not Surveyed				
New Crescent Lake	4800	1/29	41	14.5	13.6	12.4[h]
New Dutchman Flat #2	6400	1/21	112	45.8	39.4	33.5
Ochoco Meadows	5200	1/30	26	8.8	7.6	7.8
Paulina Lake	6330	1/20	67	24.2	13.7	15.5[h]
Paulina Prairie	4285	1/20	7	2.0	5.8	1.9[h]
Snow Mountain	6300	2/2	45	16.3	9.1	- -
Tamarack	4800	1/26	29	8.8	4.0	- -
Tangent	5400	1/21	63	22.1	19.0	16.8[h]
Three Creeks Butte	5200	2/1	35	14.4	11.4	8.8[h]
Three Creeks Meadows	5600	2/1	49	19.1	15.2	13.9[h]
Waldo Lake	5500	1/26	89	29.1	23.9	20.6[h]
Willamette Pass	5600	1/30	93	42.1	31.8	28.5[h]
Windigo Pass	5800	1/29	114	45.3	33.0	29.4[h]

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS
OREGON

as of

FEBRUARY 1, 1965

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Adequate water supplies for Hood River-Wasco county irrigators in 1965 seem assured because of above average snowpacks, wet soils and satisfactory stored water supplies.

SNOW COVER

Water content of the mountain snowpack is 128 percent of the 1948-62 average and 105 percent of last year on this date. This is rather remarkable since two floods have been experienced in one thirty-day period.

SOIL MOISTURE

Watershed soils are practically saturated and will favor runoff from melting snow in the spring.

RESERVOIR STORAGE

Clear Lake Reservoir, serving Juniper Flat District, is reported to be holding about 4,500 acre feet. Badger Lake and Rock Creek reservoirs on the White River drainage have not been reported so far this year.

STREAMFLOW

Spring and summer flows of all streams are expected to be adequate for all usual irrigation needs.

White River is forecast to flow 141 percent of the 1948-62 average for the April through September period. Hood River, West Fork is forecast at 121 percent for the same period and Hood River near Hood River is expected to flow 123 percent average.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Aldridge Ditch	Average	Average
Badger Creek	Average	Average
Dee Irrigation District	Average	Average
East Fork Irrig. Dist.	Average	Average
Farmers Irrig. Dist.	Average	Average
Hood River Irrig. Dist.	Average	Average
Juniper Flat	Average	Average
Middle Fork Irrig. Dist.	Average	Average
Mile Creeks	Average	Average
Mill Creek	Average	Average
Mount Hood Irrig. Dist.	Average	Average
Rock-Gate-Threemile Crs.	Average	Average
Tygh Creek	Average	Average
White River	Average	Average

RESERVOIR STORAGE (1,000 Ac. Ft.) February 1, 1965

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Clear Lake	11.8	4.5	0.0	- -

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of February 1, 1965

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
1210	Hood River near Hood River[d]	595	March-Sept.	477	125
		470	April-Sept.	381	123
1185	Hood, West Fork near Dee	275	March-Sept.	222	124
		217	April-Sept.	179	121
1015	White below Tygh Valley	225	April-July	158	142
		249	April-Sept.	176	141

SNOW

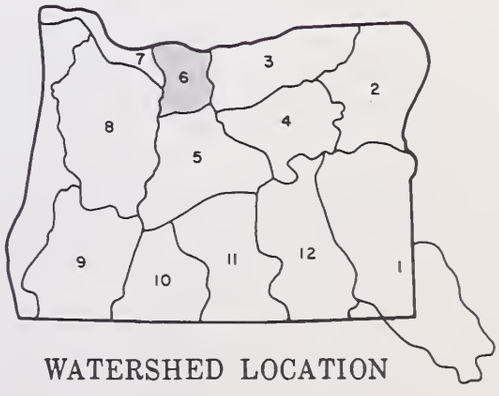
SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	WATER CONTENT (Inches) 1948-62 AVERAGE
Brooks Meadows	4300	c				
Clear Lake	3500	1/29	33	11.9	8.2	6.9[h]
Clear Lake (Experimental)	3500	1/29	48	15.8	13.4	6.6[h]
Cooper Spur	3490	2/2	32	14.1	9.8	- -
Greenpoint Reservoir	3400	1/28	58	20.0	13.0	12.0
Knebal Springs	3850	c				
Lambert Point	7000	Not surveyed				
Parkdale	1770	2/2	0	0.0	0.0	- -
Phlox Point	5600	2/2	104	46.8	50.8	39.7
Red Hill	4400	2/1	70	30.2	34.8	30.2
Still Creek	3700	1/28	58	21.1	18.8	17.0
Switchback	3255	2/1	23	8.9	14.1	- -
Tilly Jane	6000	1/21	92	35.8	30.1	28.2
Ulrich Ranch Junction	3350	c				
Umbrella Falls #1	5400	2/2[j]	124	55.8	---	- -
Upper Valley	2530	2/2	12	4.3	3.8	- -

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

HOOD, MILE CREEKS, LOWER DESCHUTES WATERSHEDS

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Aerial Snow Depth Gage
- Soil Moisture Station



WATERSHED LOCATION

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
LOWER COLUMBIA WATERSHEDS
OREGON

as of

FEBRUARY 1, 1965

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Water supply outlook is good throughout the Columbia Basin for both irrigation and power for 1965. No water shortages are expected. On the Snake River and its tributaries in southern and southwestern Idaho, problems in disposal of water from now through the snowmelt season will be critical. Streamflow forecasts over 150 percent of average for the snowmelt season are common on the Snake and its tributaries. Major reservoirs in this area are near capacity even with releases made during January which are continuing at this time.

SNOW COVER

Snow accumulation to February 1 is above average except for the Big Bend area of the Columbia Basin in British Columbia. Record snowpack for this date exists on the Snake River and its tributaries in southern Idaho and western Wyoming, extending almost to valley elevations. Slightly less but near record snowpack, compared to average, is on Lower Columbia tributaries in Central Oregon. There is relatively less snow accumulation in the Cascade Range of Oregon and Washington. Much of the heavy precipitation during December and January fell as rain even at elevations as high as 5000 feet. The rainfall along with warm temperatures tended to reduce the snowpack at lower mountain elevations, contributing to heavy runoff. At high elevations in the Cascades, snowpack ranges from 100 to 140 per cent of average, generally comparable to that of a year ago at this time.

SOIL MOISTURE

Mountain and valley soils are wet over the entire basin.

STREAMFLOW

The flow of the Columbia at The Dalles has been above average since October 1 with extremely high flows in December and January, especially below the confluence of the Columbia with the Willamette. The forecast for the Columbia at The Dalles, Oregon for the April-September 1965 period is about 124,000,000 acre feet or 114 percent of normal. The recent flow at The Dalles* is as follows:

Month	Percent of average discharge (1948-62)
October	113 (Adjusted for storage)
November	97 " " "
December	163 " " "
January	143 " " "

*Preliminary data furnished by Current Records Center, U. S. Geological Survey, Portland, Oregon

Report prepared by
HOMER J. STOCKWELL
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
511 N.W. BROADWAY, RM. 507
PORTLAND, OREGON 97209

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of February 1, 1965

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
1057	Columbia at The Dalles	86,000	April-June	74,100	116
		124,000	April-Sept.	108,500	114

HISTORICAL DATA (Columbia River at The Dalles)

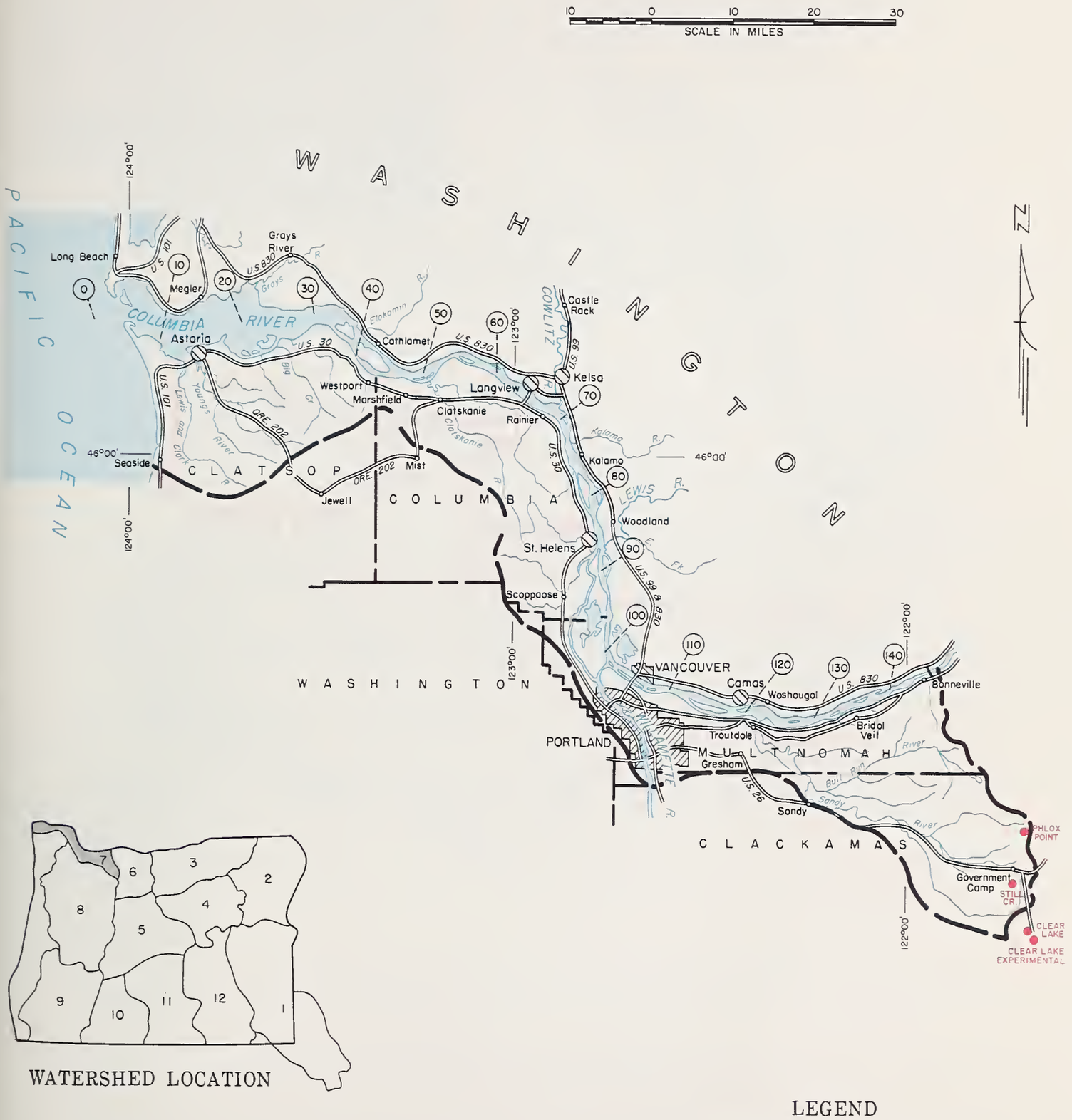
YEAR	STREAMFLOW[d] (1,000 A.F.) APR. — SEPT.	APR. — JUNE	MAY — JUNE	PEAK (1,000 c.f.s)	DATE
1943	115,000	75,300	52,400	541	June 21
1944	61,900	39,200	32,100	326	June 19
1945	81,600	54,600	47,300	505	June 8
1946	108,100	75,400	59,600	581	May 30
1947	100,300	70,000	56,800	536	May 11
1948	130,500	94,600	81,900	999	May 31
1949	95,700	71,400	56,000	622	May 18
1950	120,400	74,700	61,200	744	June 25
1951	113,000	75,600	59,100	597	May 26
1952	107,700	77,500	57,300	557	May 28
1953	100,600	64,900	55,800	609	June 17
1954	119,500	70,500	59,300	561	May 23
1955	99,500	58,300	50,300	545	June 26
1956	131,400	96,900	75,800	815	June 3
1957	105,700	80,500	67,200	700	May 22
1958	97,700	72,000	58,600	593	May 31
1959	112,500	71,900	58,900	555	June 23
1960	97,000	64,000	48,000	442	June 6
1961	101,400	74,400	64,000	699	June 8
1962	94,600	64,100	49,200	460	June 5
1948-62 Avg.	108,500	74,100	60,200	633	
1963	87,000	56,300	46,200	437	June 18

LOWER COLUMBIA RIVER FLOOD STAGES (with 9.5' tide at Astoria)

VANCOUVER GAGE (Weather Bu.)	FLOW AT THE DALLES (1,000 c.f.s)	DRAINAGE DISTRICT PUMPHOUSE SANDY	SAUVIE ISL.	SCAPPOOSE	DEER ISL.	RAINIER	BEAVER	WOODSON
		RIVER MILES 118.9	96.0	91.0	77.0	62.0	52.0	47.0
35 (1894)	1210	41.2	34.2	33.3	28.5	21.9	17.5	15.5
34	1160	40.5	33.5	32.5	27.7	21.2	17.0	15.0
33	1100	39.6	32.4	31.4	26.7	20.2	16.1	14.3
32	1050	38.9	31.5	30.5	25.7	19.5	15.4	13.7
31 (1948)	1000	38.0	30.7	29.5	25.1	18.8	14.7	13.0
30	943	36.6	29.5	28.5	24.3	18.1	14.0	12.4
29	897	35.5	28.5	27.7	23.7	17.5	13.4	11.8
28	853	34.3	27.5	26.7	22.8	17.0	13.0	11.4
27 (1956)	811	33.0	26.5	25.6	21.8	16.2	12.5	11.0
26 (1950)	771	32.1	25.5	24.6	20.9	15.5	12.2	10.7
25	733	30.7	24.2	23.2	19.7	14.6	11.7	10.3
24	697	29.7	23.0	22.2	19.0	14.1	11.4	10.2
23	662	29.0	22.3	21.4	18.4	13.6	11.2	10.0
22	628	28.1	21.4	20.3	17.2	13.0	10.9	9.7
21	595	27.2	20.7	19.5	16.4	12.6	10.6	9.6
20 (1954)	564	26.2	19.8	18.6	15.5	12.1	10.2	9.4
19	534	25.5	19.2	18.0	15.0	11.8	10.0	9.3
18	501	24.4	18.3	17.2	14.3	11.4	9.8	9.1
17	479	23.4	17.4	16.4	13.7	11.0	9.6	8.9
16	452	22.4	16.5	15.5	13.0	10.5	9.3	8.7

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records.

LOWER COLUMBIA WATERSHEDS



"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
WILLAMETTE WATERSHEDS
OREGON

as of

FEBRUARY 1, 1965

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Adequate water supplies for the 1965 irrigation season seem assured to farmers in the Willamette Basin as indicated by greater than average snowpacks, wet soils and prospects for excellent reservoired water supplies.

SNOW COVER

Water content of the mountain snowpack in the Willamette, as measured at 32 snow courses, averages 130 percent of the usual February 1 amount and about the same as one year ago.

SOIL MOISTURE

Watershed soils are practically saturated and will favor runoff from melting snow in the spring.

RESERVOIR STORAGE

The seven multi-purpose reservoirs on Willamette tributaries contain much more than the usual water for this date due to the second flood of the winter occuring the last week in January. All reservoirs are being spilled to make room for flows yet to come.

Timothy Lake, a power reservoir on the Clackamas, is full and spilling.

STREAMFLOW

Forecasts for the Willamette tributaries flowing from the Cascade Mountains indicate the spring and summer flows (April through September) will be at or somewhat above the 1948-62 average flows.

Flow of the Willamette at Salem is forecast at 5,845,000 acre feet or 105 percent average for the six months April through September.

Other forecasts in the basin vary from 99 percent for the Row, to 131 percent for the Oak Grove Fork of the Clackamas.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

WATER SUPPLY OUTLOOK expressed as "Poor", "Foir" "Averoge" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Calapooya	Excellent	Average
Clackamas	Excellent	Average
McKenzie	Excellent	Average
Molalla	Excellent	Average
Santiam, North	Excellent	Average
Santiam, South	Excellent	Average
Willamette, Coast Fork	Excellent	Average
Willamette, Middle Fork	Excellent	Average

RESERVOIR STORAGE (1,000 Ac. Ft.) February 1, 1965

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Cottage Grove	30.8*	4.5	0.1	1.6
Cougar	219.3*	75.0	9.5	- -
Detroit	299.9*	193.8	36.3	30.1
Dorena	70.5*	37.8	6.5	5.6
Fern Ridge	94.2*	43.1	42.5	18.7
Hills Creek Res.	249.0*	50.2	33.5	- -
Lookout Point	337.2*	146.2	27.1	26.9
Timothy Lake	61.7	61.7	46.1	39.5

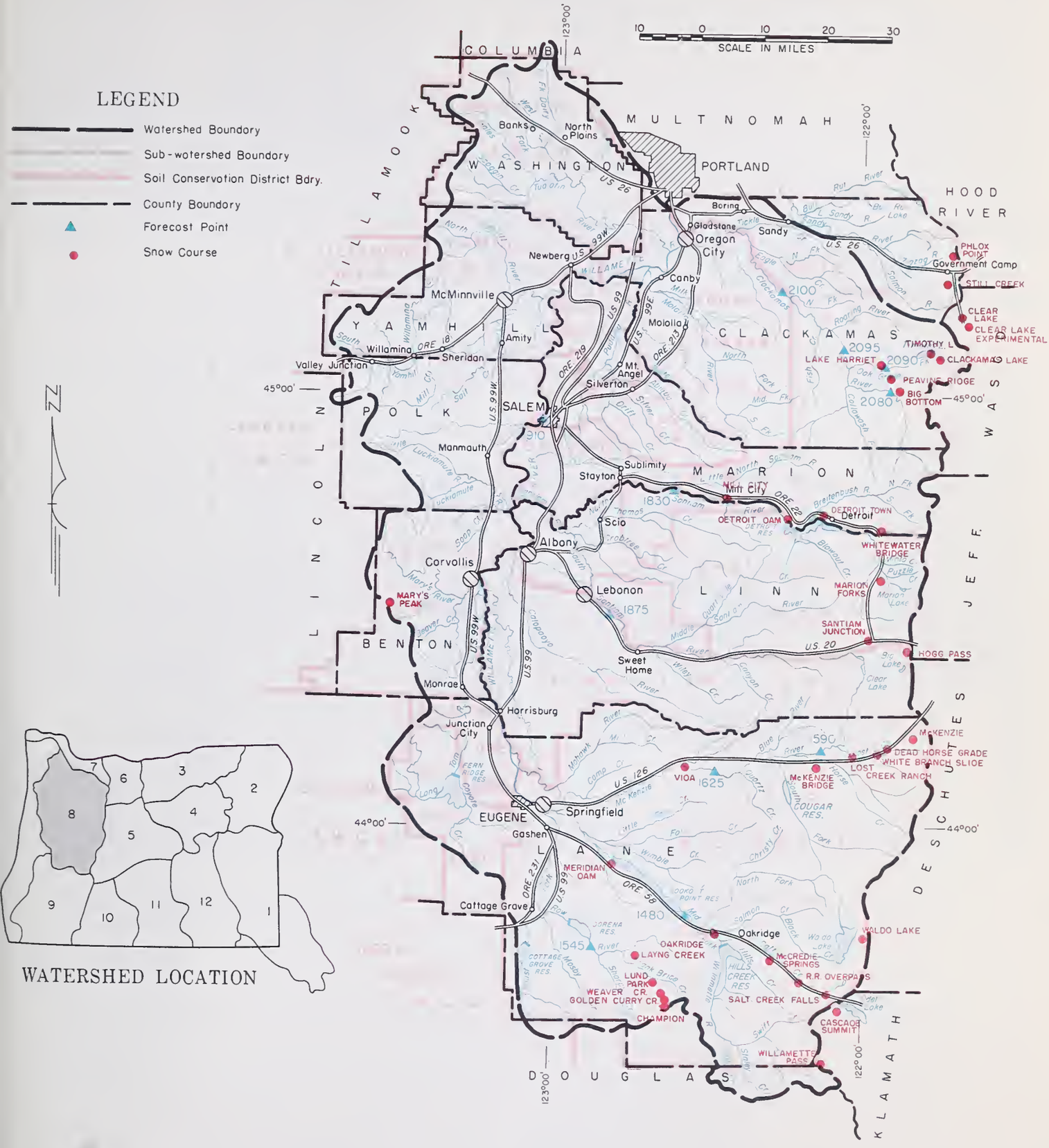
*Multiple purpose reservoir--space reserved primarily for flood runoff.

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of February 1, 1965

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
2080	Clackamas at Big Bottom	199	April-July	150	133
		235	April-Sept.	184	128
2100	Clackamas at Estacada	833	April-July	770	108
		910	April-Sept.	890	102
2095	Clackamas above Three Lynx	593	April-July	584	102
		687	April-Sept.	683	101
1590	McKenzie at McKenzie Bridge	522	April-July	502	104
		676	April-Sept.	658	103
1625	McKenzie near Vida	1191	April-July	1144	104
		1434	April-Sept.	1392	103
2090	Oak Grove Fork above Power Intake	201	April-July	147	137
		248	April-Sept.	190	131
1545	Row near Dorena	107	April-July	108	99
		111	April-Sept.	112	99
1830	Santiam, North at Mehama[d]	928	April-July	884	105
		1030	April-Sept.	991	104
1875	Santiam, South at Waterloo	745	April-July	637	117
		800	April-Sept.	675	118
1480	Willamette, Mid. Fk. blw. N. Fk. nr. Oakridge[d]	885	April-July	804	110
		1002	April-Sept.	909	110
1910	Willamette at Salem[d]	5240	April-July	5040	104
		5845	April-Sept.	5566	105

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

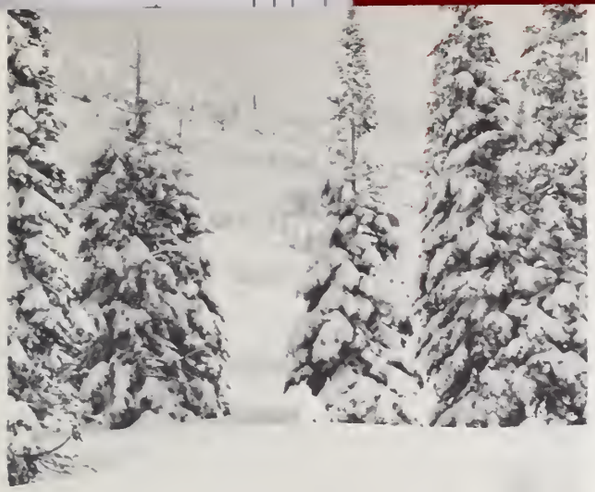
WILLAMETTE WATERSHEDS



SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1948-62 AVERAGE
Big Bottom	2118	1/31	19	7.2	6.1	4.5[h]
Cascade Summit	4880	1/28	80	32.4	21.8	21.9
Champion	4500	2/1	51	23.6	23.5	18.8
Clackamas Lake	3400	c				
Clear Lake	3500	1/29	33	11.9	8.2	6.9[h]
Clear Lake (Experimental)	3500	1/29	48	15.8	13.4	6.6[m]
Dead Horse Grade	3800	2/1	39	16.2	14.9	13.7[h]
Detroit Town	1610	1/28	Ponded	water		
Detroit Dam	1580	1/28	0	0.0	0.0	0.8[h]
Golden Curry Creek	3136	2/1	13	6.0	9.0	5.4[h]
Hogg Pass	4755	1/28	111	39.9	32.5	29.0
Lake Harriet	2045	1/31	5	1.5	3.8	3.4[h]
Layng Creek	1200	2/1	0	0.0	0.0	0.3[m]
Lost Creek Ranch	1956	2/1	11	4.3	7.2	3.9[h]
Lund Park	1740	2/1	0	0.0	0.0	1.5[h]
Marion Forks	2730	1/28	34	11.8	- -	10.5
Marys Peak	3620	Flood	damage--no	survey		
McCredie Springs	2120	1/28	0	0.0	T	1.2[h]
McKenzie	4800	2/1	83	37.4	35.0	30.4
McKenzie Bridge	1372	2/1	0	0.0	0.0	1.7[h]
Meridian Dam	750	1/28	0	0.0	0.0	T[h]
Mill City	826	1/28	0	0.0	0.0	0.2[m]
Oakridge	1310	1/28	0	0.0	0.0	T[h]
Peavine Ridge	3500	Not	surveyed			
Phlox Point	5600	2/2	104	44.9	50.8	39.7
Railroad Overpass	2750	1/28	T	T	5.4	3.4[h]
Salt Creek Falls	4000	1/28	45	19.1	14.1	11.4[h]
Santiam Junction	3990	1/28	58	23.0	20.7	17.8
Still Creek	3700	1/28	58	21.1	18.8	17.0
Timothy Lake	3295	1/31	43	15.1	- -	11.4[h]
Vida	800	2/1	0	0.0	0.0	0.5[h]
Waldo Lake	5500	1/26	89	29.1	23.9	20.6[h]
Weaver Creek	2440	2/1	0	0.0	2.3	1.6[h]
White Branch Slide	2800	2/1	14	5.8	8.4	5.4[h]
Whitewater Bridge	2175	1/28	24	8.5	6.1	5.3[h]
Willamette Pass	5600	1/30	93	42.1	31.8	28.5[h]

"The Conservation of Water begins with the Snow Survey"



Area 9

WATER SUPPLY OUTLOOK
ROGUE, UMPQUA, WATERSHEDS
OREGON

as of

FEBRUARY 1, 1965

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Adequate water supplies for irrigators on Rogue and Umpqua watersheds seem assured by a much above average snowpack, very wet soils and excellent stored water supplies.

SNOW COVER

Water content of the mountain snowpack, as observed at 31 snow stations, is 149 percent of the 1948-62 average on the Rogue and 139 percent average on the Umpqua.

New snow records were established at Windigo Pass on the Umpqua and at Park Headquarters on the Rogue. At Park Headquarters the Rangers measured 172 inches of snow containing 71.0 inches of water which is slightly greater than in 1952 when they measured 67.7 inches of water in 184 inches of snow.

SOIL MOISTURE

All evidence indicates that watershed soils are extremely wet and will favor run-off from melting snow in the spring.

RESERVOIR STORAGE

A total of 21,600 acre feet is stored in the Fish and Fourmile Lake reservoirs for the Medford and Rogue River Valley Irrigation Districts. A year ago on February 1 the total storage was 17,000 acre feet.

Talent Irrigation District has a total of 103,000 acre feet in its three reservoirs compared with 81,200 acre feet just a year ago.

STREAMFLOW

Flow of the Rogue at Raygold* has been 443 percent average in December and 237 percent in January during the two severe flood periods.

Forecasts of April through September streamflow compared with 1948-62 average flows are as follows:

Rogue below South Fork	127	percent average
Rogue at Raygold	125	" "
Applegate near Copper	123	" "
Illinois at Kerby	118	" "
Umpqua below Lemolo	118	" "

* Preliminary data from Pacific Power & Light Co., Medford, Oregon.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Althouse Creek	Average	Average
Applegate River, Big	Average	Average
Applegate River, Little	Average	Average
Ashland Creek	Average	Average
Butte Creek, Little	Average	Average
Butte Creek, Big	Average	Average
Cow Creek	Average	Average
Deer Creek	Average	Average
Elk Creek	Average	Average
Emigrant Creek (abv. Res.)	Average	Average
Evans Creek	Average	Average
Gold Hill Irrigation Dist.	Average	Average
Grants Pass Irrig. Dist.	Average	Average
Grave Creek	Average	Average
Illinois River, East Fork	Average	Average
Illinois River, West Fork	Average	Average
Jump-off-Joe Creek	Average	Average
Neil Creek	Average	Average
Red Blanket Creek	Average	Average
Rogue River	Average	Average
Sucker Creek	Average	Average
Table Rock Irrig. Dist.	Average	Average
Thompson Creek	Average	Average
Wagner Creek	Average	Average
Williams Creek	Average	Average

RESERVOIR STORAGE (1,000 Ac. Ft.) February 1, 1965

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Emigrant Gap	39.0	26.2	24.3	19.8*
Fish Lake	7.8	8.1	4.6	5.1
Fourmile Lake	16.1	13.6	12.4	8.5
Howard Prairie	60.0	60.6	45.4	- -
Hyatt Prairie	16.1	16.2	11.5	7.1

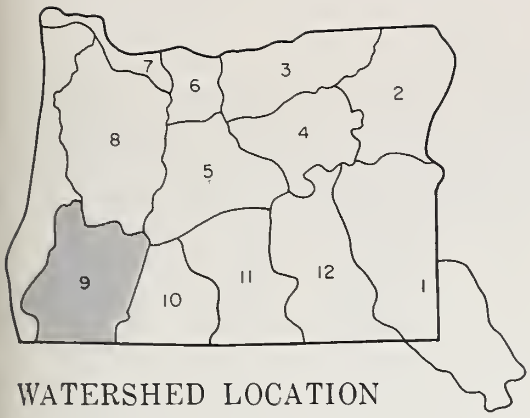
*4 yr. average after reconstruction.

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of February 1, 1965

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
3620	Applegate near Copper	175	April-Sept.	142	123
3145	Clearwater above Trap Creek[d]	85	April-Sept.	75	113
5045	Fourmile Lake net Inflow[d]	7.0	April-Sept.	6.6	106
		8.0	Feb.-Sept.	7.0	114
5140	Hyatt Reservoir net Inflow[d]	7.0	April-Sept.	6.4	110
3770	Illinois River at Kerby	415	March-July	348	119
		250	April-Sept.	212	118
3425	Little Butte, N. Fk. at Fish Lake nr. Lake Cr.[d]	20	April-Sept.	16.0	125
3415	Little Butte, S. Fork near Lake Creek	43	April-July	38	113
	Note: Minimum flow will drop to 100 c.f.s. by June 10.				
3280	Rogue above Prospect	386	April-July	295	131
		460	April-Sept.	355	130
3320	Rogue, South Fork near Prospect[d]	92	April-July	70	131
		107	April-Sept.	82	130
3350	Rogue below South Fork	780	April-July	611	128
		960	April-Sept.	754	127
3590	Rogue at Raygold near Central Point	1055	April-July	837	126
		1250	April-Sept.	1001	125
3615	Route at Grants Pass	1240	April-Sept.	993	125
3135	Umpqua, No. blw. Lemolo Res. nr. Toketee Falls[d]	220	April-Sept.	186	118

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

ROGUE, UMPQUA WATERSHEDS



WATERSHED LOCATION

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- ▲ Forecast Point
- ● Snow Course

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
					WATER CONTENT (Inches)	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	LAST YEAR	1948-62 AVERAGE
Althouse	4530	1/29	23	11.2	9.5	4.7[h]
Annie Spring	6018	1/29	116	48.2	31.3	29.4
Beaver Dam Creek	5100	1/29	28	9.9	11.4	- -
Big Red Mountain	6500	1/27	71	23.9	16.4	20.8[h]
Billie Creek Divide	5300	1/25	58	19.2	17.1	16.7[h]
Champion	4500	2/1	51	23.6	23.5	18.8
Cold Springs Camp	6100	1/21	88	32.0	26.1	- -
Deadwood Junction	4600	1/29	17	6.7	9.9	- -
Diamond-Crater Summit	5800	1/22	99	36.8	24.0	- -
Diamond Lake	5315	1/22	62	21.6	14.7	16.7
Eden Valley Summit	2390		DELAYED			
Fish Lake	4865	1/29	32	13.2	13.9	10.6[h]
Fourmile Lake	6000	c				
Grayback Peak	6000	1/29	53	23.0	23.1	17.9[h]
Howard Prairie	4500	1/29	19	6.8	7.9	- -
Hyatt Prairie Reservoir	4900	1/29	15	6.6	9.0	6.6[h]
King Mountain #1	4800	Not Surveyed				
King Mountain #2	3646	Not Surveyed				
King Mountain #3	2550	Not Surveyed				
King Mountain #4	1779	Not Surveyed				
Little Red Mountain	6500	1/27	56	20.1	14.5	15.1[h]
North Umpqua	4215	1/31	37	16.4	13.5	11.7[h]
Page Mountain	4045	1/29	12	5.7	6.2	4.0[h]
Park Headquarters	6450	1/28	172	71.0	44.2	37.3
Red Butte #1	4560	1/28	22	8.8	17.8	- -
Red Butte #2	4000	1/28	13	6.0	12.4	- -
Red Butte #3	3500	1/28	T	T	10.2	- -
Red Butte #4	3000	1/28	0	0.0	7.0	- -
Red Butte #5	2500	1/28	0	0.0	3.4	- -
Red Butte #6	2000	1/28	0	0.0	0.0	- -
Seven Lakes #1	6800	1/27	139	59.0	32.2	36.9[h]
Seven Lakes #2	6200	1/26	92	36.2	27.8	27.2[h]
Silver Burn	3720	1/28	30	12.3	12.5	10.5
Siskiyou Summit	4630	1/30	14	6.8	9.6	6.8
South Fork Canal	3500	1/28	11	4.4	5.7	3.4
Trap Creek	3800	1/31	30	12.8	12.8	9.8[h]
Whaleback	5140	Not Surveyed				
Windigo Pass	5800	1/29	114	45.3	33.0	29.4[h]

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
KLAMATH WATERSHEDS
OREGON

as of

FEBRUARY 1, 1965

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Abundant water supplies in 1965 seem assured for the irrigators of Klamath county as indicated by mid-winter measurements of snow, rainfall, soil-moisture and reservoir conditions. Only cold, dry and windy weather prevailing during the balance of the winter and early spring can dim this excellent water outlook.

SNOW COVER

Water content of the mountain snowpack in Klamath Basin is 146 percent of the 1948-62 average for February 1 and 123 percent of last year. The high elevation snow is roughly double the average amount.

SOIL MOISTURE

Moisture in the soil mantle is generally near the saturation point. At the Bly Mountain soil station, the moisture is now 91 percent of the capacity and will greatly favor runoff next spring.

RESERVOIR STORAGE

Upper Klamath Lake held 558,000 acre feet on January 31 compared with the 1948-62 average of 347,000 acre feet for that date. Water is being released to make room for further inflow to the lake, which is expected to be much above average.

Gerber Reservoir held a total of 73,360 acre feet compared with the average of 30,500 acre feet. Water is being released to make room for further inflow.

Clear Lake Reservoir contained 232,110 acre feet on January 31 compared to an average storage of 188,400 acre feet.

These reservoirs will provide excellent water supplies for all usual irrigation operations.

STREAMFLOW

Inflow to the major Klamath Basin reservoirs has been extremely heavy in December and January -- a result of mid-winter rains and snowmelt.

Forecasts of 1965 streamflow in the Klamath Basin, February through September of 1965, are well above average with flow into Upper Klamath Lake expected to be 150 percent average and into Gerber and Clear Lake reservoirs about 180 percent average.

The streamflow during the 1965 irrigation season, April through September, is expected to be about 152 percent average on the Sprague, 131 percent on the Williamson, 125 percent into Klamath Lake and 114 percent into Gerber and Clear Lake reservoirs.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Ft. Klamath Valley	Excellent	Average
Lost River (Clear Lake)	Excellent	Excellent
Lost River (Gerber)	Excellent	Excellent
Lost River (Willow Res.)	Excellent	Excellent
Sprague River	Excellent	Average
Upper Klamath Lake	Excellent	Excellent
Williamson River	Excellent	Average

RESERVOIR STORAGE (1,000 Ac. Ft.) February 1, 1965

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Clear Lake	440.2	232.1	98.9	188.4
Gerber	94.0	73.4	36.9	30.5
Upper Klamath Lake	584.0	558.4	280.1	347.1

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of February 1, 1965

FORECAST POINT NO.	FORECAST POINT NAME	FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
923	Clear Lake Reservoir Inflow[k]	180	Feb.-June	98	184
		55	April-Sept.	48	114
8215	Gerber Reservoir Inflow[k]	87	Feb.-June	48	181
		27	April-Sept.	23	117
5010	Sprague near Chiloquin	750	Feb.-Sept.	390	192
		440	April-Sept.	289	152
5070	Upper Klamath Lake net Inflow[d k]	1500	Feb.-Sept.	1002	150
		800	April-Sept.	639	125
5025	Williamson below Sprague River	1100	Feb.-Sept.	683	161
		640	April-Sept.	490	131

SOIL MOISTURE

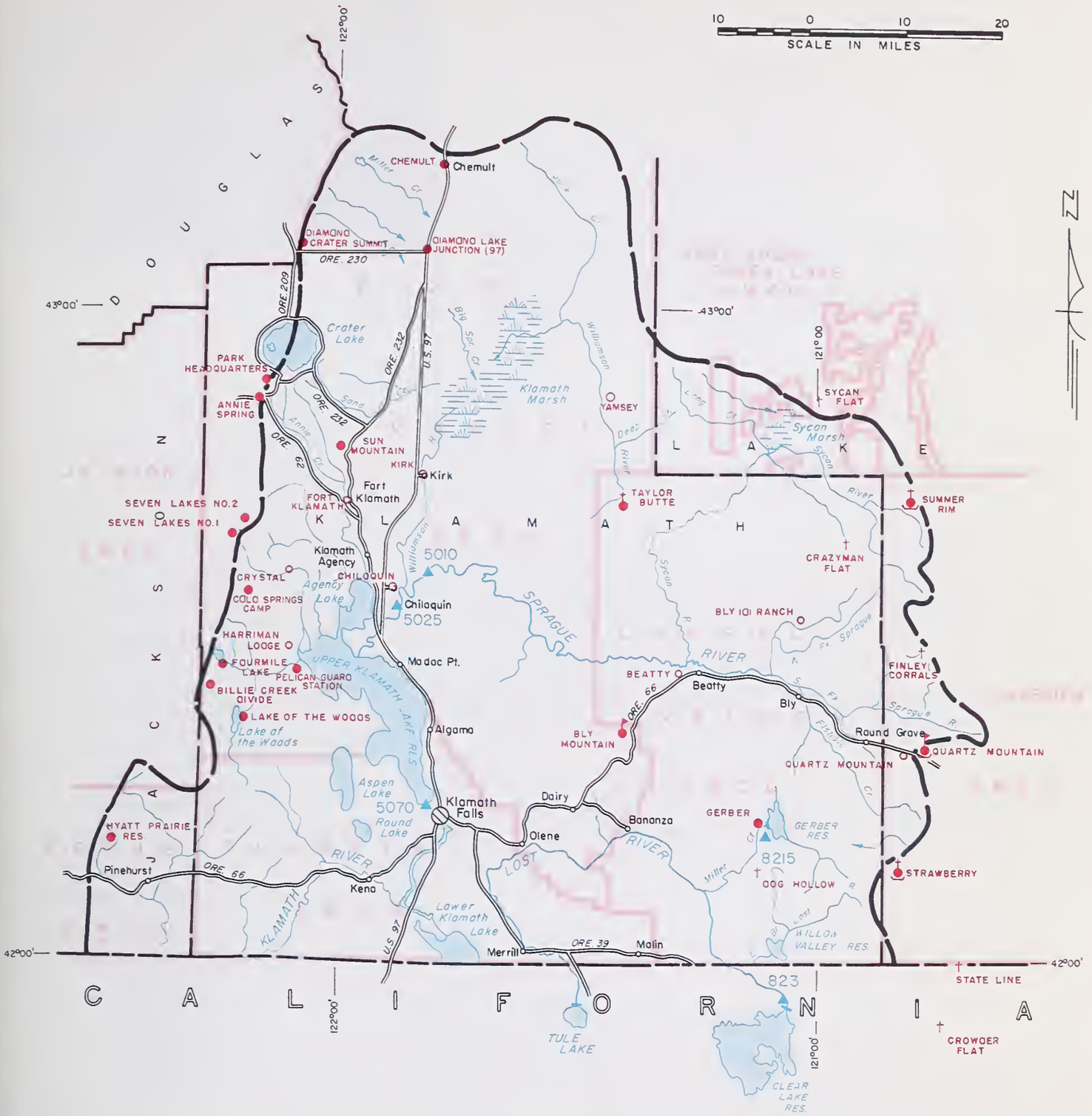
STATION NAME	STATION ELEVATION	PROFILE (Inches) DEPTH	PROFILE (Inches) CAPACITY	SOIL MOISTURE (Inches) DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Bly Mountain	5090	42	14.0	1-29-65	12.8	10.3	11.8

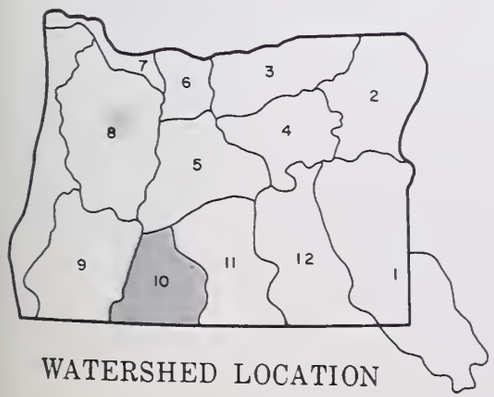
SNOW

SNOW COURSE NAME	ELEVATION	CURRENT INFORMATION DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	PAST RECORD WATER CONTENT (Inches) LAST YEAR	1948-62 AVERAGE
Annie Springs	6018	1/29	116	48.2	31.3	29.4
Beatty (PP&L)	4300	2/1	5	1.0	2.0	0.4
Billie Creek Divide	5300	1/25	58	19.2	17.1	16.7[h]
Bly Mountain	5090	1/29	13	4.6	8.6	4.5[m]
Bly 101 Ranch (PP&L)	4800	1/31	5	2.6	4.1	1.8
Chemult	4760	1/27	39	12.5	8.5	9.1
Chiloquin (PP&L)	4187	1/31	3	0.9	4.1	2.2
Cold Springs Camp	6100	1/21	88	32.0	26.1	- -
Crazyman Flat[e]	6100	1/31	24	9.1	8.6	6.2[m]
Crowder Flat[e] (Calif.)	5200	1/27	11	4.2	6.2	2.7[m]
Crystal (PP&L)	4200	1/28	26	9.0	7.5	7.6
Diamond-Crater Summit	5800	1/22	99	36.8	24.0	- -
Diamond Lake Junction (97	4600	1/22	22	6.0	6.6	- -
Dog Hollow[e]	4900	1/27	7	2.7	2.9	1.0[m]
Finley Corrals[e]	6000	1/30	48	18.2	14.4	10.2[m]
Fort Klamath (PP&L)	4150	1/29	10	4.5	4.7	4.1
Gerber	4850	2/1[j]	6	2.3	6.2	2.4[h]
Harriman (PP&L)	4200	1/26	19	5.3	7.1	3.7
Hyatt Prairie Reservoir	4900	1/29	15	6.6	9.0	6.6[h]
Kirk (PP&L)	4533	1/30	15	4.8	7.4	6.1
Lake of the Woods	4960	1/29	27	9.8	10.3	9.6
Park Headquarters	6450	1/28	172	71.0	44.2	37.3
Pelican Guard Station	4150	1/21	15	3.0	5.8	- -
Quartz Mountain	5320	1/29	17	6.6	6.5	5.6
Quartz Mountain (PP&L)	5504	1/29	20	7.5	7.2	5.3
Seven Lakes #1	6800	1/27	139	59.0	32.2	36.9[h]
Seven Lakes #2	6200	1/26	92	36.2	27.8	27.2[h]
State Line[e] (Calif.)	5750	1/27	26	9.9	11.5	6.0[m]
Strawberry	5760	2/1	17	6.5	7.6	6.6[h]
Summer Rim	7200	1/31	50	19.0	11.0	8.3[m]
Sun Mountain	5350	Not Surveyed				
Sycan Flat[e]	5500	1/31	20	7.6	7.2	5.6[m]
Taylor Butte	5100	1/20	16	4.5	5.1	4.7[h]
Yamsey (PP&L)	4600	No survey				

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

KLAMATH WATERSHEDS





WATERSHED LOCATION

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Aerial Snow Depth Gage
- COPCO Snow Station
- Soil Moisture Station
- Precipitation Gage

"The Conservation of Water begins with the Snow Survey"

Area 11

WATER SUPPLY OUTLOOK
LAKE COUNTY, GOOSE LAKE WATERSHEDS
OREGON

as of

FEBRUARY 1, 1965

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Abundant water supplies for Lake county irrigators in the 1965 season seem assured by extremely heavy snowpacks, very wet soils and reservoirs full to the brim.

SNOW COVER

Water content of the mountain snowpack, as measured about February 1 at 18 stations, is 150 percent of the 1948-62 average and 116 percent of last year.

SOIL MOISTURE

This abundant snowpack rests on watershed soils that are nearing the moisture saturation point. These wet soils will favor runoff from snowmelt next spring.

RESERVOIR STORAGE

Both Drews Valley and Cottonwood reservoirs are full and spilling. It has been estimated by an experienced water engineer that over 200,000 acre feet of water have run into Goose Lake since October 1.

STREAMFLOW

Streamflow forecasts for the March-June period are higher than for many years and are as follows:

Chewaucan	153,000 acre feet - 172 percent of average
Deep Creek	116,000 acre feet - 149 percent of average
Honey Creek	32,000 acre feet - 178 percent of average
Twentymile Creek	39,000 acre feet - 139 percent of average

The inflow to Drews Reservoir is expected to be 60,000 acre feet for the March-July period or 133 percent of the 1948-62 average.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Chewaucan River	Excellent	Average
Crooked Creek	Excellent	Average
Deep Creek	Excellent	Average
Dry Creek	Excellent	Average
East Side Goose Lake	Excellent	Average
Guano Lake	Excellent	Average
Honey Creek	Excellent	Average
Lakeview Water Users Assn.	Excellent	Average
Rock Creek (Hart Mtn.)	Excellent	Average
Silver-Buck Creeks	Excellent	Average
Summer Lake	Excellent	Average
Thomas Creek	Excellent	Average
Twentymile Creek	Excellent	Average
Warner Lakes	Excellent	Average

RESERVOIR STORAGE (1,000 Ac. Ft.) February 1, 1965

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE
Cottonwood	9.1	5.6	1.0	1.4*
Drew	63.0	66.2	38.6	32.5

*2 yr. average after reconstruction.

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of February 1, 1965

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
3840	Chewaucan near Paisley	153	March-June	89	172
3715	Deep above Adel	116	March-June	78	149
3385	Drew Reservoir net Inflow	60	March-July	45	133
3785	Honey near Plush	32	March-June	18.0	178
3660	Twentymile near Adel	39	March-June	28	139

SOIL MOISTURE

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Camas Creek	5720	42	14.5	1-28-65	13.0	12.7	12.6
Quartz Mountain	5320	48	15.3	1-29-65	10.4	9.0	10.8

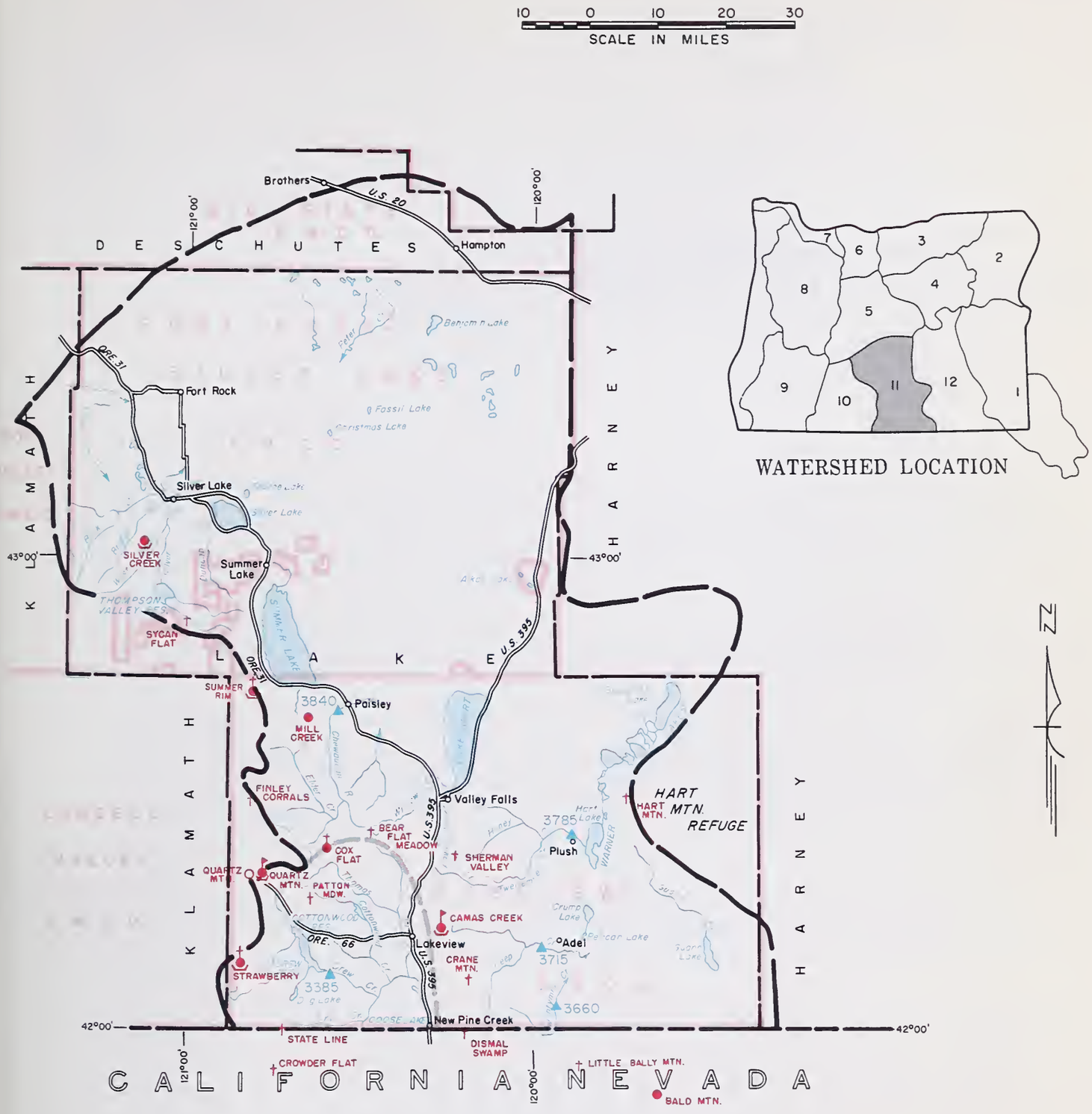
Errata: - Reading for Quartz Mtn. published in January bulletin read 15.0--should have read 10.3.

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	WATER CONTENT (Inches) 1948-62 AVERAGE
Bald Mountain (Nev.)	6720	c				
Bear Flat Meadow[e]	5900	1/30	24	9.1	7.2	5.2[m]
Camas Creek	5720	1/28	31	9.5	9.9	7.9
Cox Flat[e]	5750	1/30	24	9.1	8.2	5.2[m]
Crane Mountain[e]	6020	1/30	6	2.0	4.3	4.1[m]
Crowder Flat[e] (Calif.)	5200	1/27	11	4.2	6.2	2.7[m]
Dismal Swamp[e] (Calif.)	7000	1/30	46	15.6	10.8	8.2[m]
Finley Corrals[e]	6000	1/30	48	18.2	14.4	10.2[m]
Hart Mountain	6350	1/30	6	2.0	1.0	0.9[m]
Little Bally Mountain[e] (Nev.)	6600	1/30	9	3.1	2.4	- -
Mill Creek	6200	c				
Patton Meadows[e]	6800	1/30	50	19.0	11.5	- -
Quartz Mountain (PP&L)	5504	1/29	20	7.5	7.2	5.3
Quartz Mountain	5320	1/29	17	6.6	6.5	5.6
Sherman Valley[e]	6600	1/30	30	10.2	8.6	7.4[m]
Silver Creek	4900	1/29	10	2.1	2.9	3.4[h]
State Line[e] (Calif.)	5750	1/27	26	9.9	11.5	6.0
Strawberry	5760	2/1	17	6.5	7.6	6.6[h]
Summer Rim	7200	1/31	50	19.0	11.0	8.3[m]
Sycan Flat[e]	5500	1/31	20	7.6	7.2	5.6[m]

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

LAKE COUNTY, GOOSE LAKE WATERSHEDS



WATERSHED LOCATION

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Aeriol Snow Depth Goge
- COPCO Snow Station
- Soil Moisture Station
- Precipitation Gage

"The Conservation of Water begins with the Snow Survey"

WATER SUPPLY OUTLOOK
HARNEY BASIN WATERSHEDS
OREGON

as of

FEBRUARY 1, 1965

U. S. D. A. SOIL CONSERVATION SERVICE
OREGON STATE UNIVERSITY ··· OREGON STATE ENGINEER

GENERAL OUTLOOK

Abundant water supplies in 1965 seem assured for the irrigators in Harney Basin as indicated by mid-winter measurements of snow, rainfall, soil moisture and reservoir conditions. Only cold, dry and windy weather prevailing during the balance of the winter and early spring can dim this excellent water outlook.

SNOW COVER

Water content of the mountain snowpack in Harney Basin is 165 percent of the 1948-62 average and 121 percent of last year.

SOIL MOISTURE

Watershed soils are near the saturation point and will greatly favor the runoff from snowmelt and rainfall. Reports from six soil stations indicate moisture is now at 91 percent of capacity in the top four feet of the soil profile.

STREAMFLOW

Mid-winter flow of Harney county streams has been extremely heavy; reservoirs have filled and most streams have varied from bank-full to flood conditions. Flow of water has reached both Malheur and Harney Lakes and may be flowing through Narrows between the lakes.

Forecasts for streamflow during the 1965 irrigation season, April through September, are much above the 1948-62 average and are as follows: Silvies River, 178,000 acre feet or 180 percent average; Silver Creek, 38,000 acre feet (April-July) or 173 percent of average; Blitzen River, 95,000 acre feet or 153 percent average; and Trout Creek, 14,000 acre feet or 167 percent of average.

Report prepared by
W.T. FROST AND BOB L. WHALEY
U.S. DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE
1218 S.W. WASHINGTON ST.
PORTLAND, OREGON 97205

WATER SUPPLY OUTLOOK expressed as "Poor", "Fair" "Average" or "Excellent"

STREAM or AREA	FLOW PERIOD	
	SPRING SEASON	LATE SEASON
Catlow Valley	Average	Average
Cow Creek	Average	Average
Donner und Blitzen River	Excellent	Average
Mill-Coffeepot Creeks	Average	Average
Rattlesnake Creek	Average	Average
Silver Creek	Excellent	Average
Silvies River	Excellent	Average
Soldier-Prather Creek	Average	Average
Trout Creek	Excellent	Average
Whitehorse Creek	Excellent	Average

RESERVOIR STORAGE (1,000 Ac. Ft.) February 1, 1965

RESERVOIR	USABLE CAPACITY	MEASURED (First of Month)		
		THIS YEAR	LAST YEAR	1948-62 AVERAGE

STREAMFLOW FORECASTS[a] (1,000 Ac. Ft.) as of February 1, 1965

FORECAST POINT		FORECAST THIS YEAR	FORECAST PERIOD	1948-62 AVERAGE	THIS YEAR AS PERCENT OF AVERAGE[i]
NO.	NAME				
3960	Donner und Blitzen near Frenchglen	94	March-June	59	159
		95	April-Sept.	62	153
4030	Silver near Riley	38	April-July	22	173
3935	Silvies near Burns	215	March-June	116	185
		178	April-Sept.	99	180
4065	Trout near Denio	14.3	March-July	8.7	164
		14.0	April-Sept.	8.4	167

SOIL MOISTURE

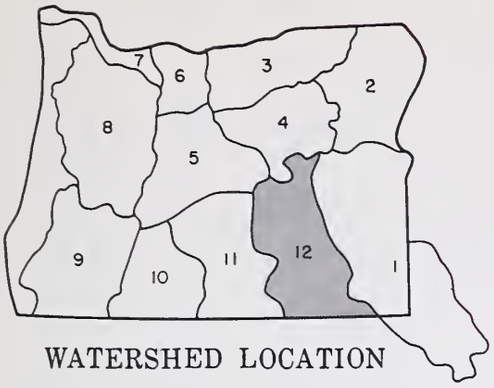
STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
NAME	ELEVATION	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
Blue Mountain Springs	5900	42	16.9	1-28-65	13.0	7.2[f]	12.3[f]
Fish Creek	7600	48	15.0	b			
Folly Farm	4450	30	12.5	12-16-64	8.2[f]	- -	9.0[f]
Silvies	6900	48	16.4	b			
Snow Mountain	6300	48	16.7	2-2-65	16.3	12.2	13.4
Starr Ridge	5150	36	10.6	1-27-65	10.3	8.1	10.4
Stinking Water Summit	4800	48	21.9	12-17-64	21.3[f]	20.8[f]	21.1
Willow-Bald	5000	24	6.6	2-2-65	6.4	5.6	6.2

SNOW

SNOW COURSE		CURRENT INFORMATION			PAST RECORD	
NAME	ELEVATION	DATE OF SURVEY	SNOW DEPTH (Inches)	WATER CONTENT (Inches)	WATER CONTENT (Inches) LAST YEAR	1948-62 AVERAGE
Blue Mountain Springs	5900	1/28	76	20.8	10.8	10.8
Buck Pasture[e]	5700	2/1	1	0.4	4.8	- -
Buckskin Lake[e]	5200	2/1	0	0.0	2.2	- -
Call Meadows[e]	5340	2/1	3	0.8	3.1	- -
Crow Camp[e]	5500	2/1	2	0.6	3.0	- -
Delintment Lake	5600	2/2	22	7.1	5.9	- -
Denio Creek[e]	6000	2/1	0	0.0	0.7	- -
Disaster Peak (Nev.)	6500	c				
Emigrant Butte	5000	2/2	9	3.1	4.8	- -
Fish Creek[e]	7900	2/1[j]	60	21.0	14.4	- -
Hart Mountain[e]	6350	1/30	6	2.0	1.0	0.9[m]
Idlewild Camp	5200	1/29	21	6.3	4.5	4.2
Izee Summit	5293	1/27	31	8.7	6.4	6.2[h]
Lake Creek	5120	2/1[j]	39	13.1	8.2	5.8[m]
Oregon Canyon[e]	6950	2/1	6	2.1	4.8	- -
Rock Spring	5100	1/29	23	5.9	4.6	4.2
Silvies[e]	6900	2/1[j]	24	8.4	6.5	- -
Snow Mountain	6300	2/2	45	16.3	9.1	- -
Starr Ridge	5150	1/27	31	8.0	5.2	4.6[h]
Stinking Water	4800	2/1	4	1.3	3.7	3.3[h]
Trout Creek[e]	7800	2/1	16	5.6	2.9	- -
"V" Lake[e]	6600	2/1	0	0.0	1.9	- -

(a) Assuming normal meteorological conditions. (b) No report. (c) Not scheduled. (d) Corrected to natural flow. (e) Aerial snow depth gage, water content estimated. (f) Nearest current data. (g) Partly estimated. (h) 1948-62 adjusted average. (i) 1948-62, 15 year average. (j) Telephonic report - data not confirmed. (k) Data from PP&L Co. or USBR records. (m) Average for 5 or more years in base period.

HARNEY BASIN WATERSHEDS



WATERSHED LOCATION

10 0 10 20 30
SCALE IN MILES

LEGEND

- Watershed Boundary
- Sub-watershed Boundary
- Soil Conservation District Bdry.
- County Boundary
- Forecast Point
- Snow Course
- Aerial Snow Depth Gage
- Soil Moisture Station
- Precipitation Gage

"The Conservation of Water begins with the Snow Survey"

Number	Name	Sec.	Twp.	Rge.	Elev.
17H6a	Quinn Ridge (Nev)	9	47N	41E	6300
16G11a	Red Canyon (Ida)	32	11S	4W	6500
15H6MP	Rodeo Flat (Nev)	36	43N	53E	6800
15H3A	76 Creek (Nev)	6	44N	58E	7100
16F3	Silver City (Ida)	6	5S	3W	6400
18G1MA	Silvies	35	32S	32½E	6900
16G1	South Mountain No. 2 (Ida)	10	8S	5W	6340
16F6a	Succor Creek (Ida)	25	3S	5W	6100
15H9MP	Taylor Canyon (Nev)	35	39N	53E	6200
15H8	Tremewan Ranch (Nev)	9	39N	55E	5700
16G4MA	Triangle (Ida)	25	7S	3W	5150
18G5a	Trout Creek	10	41S	38E	7800
18G7a	"V" Lake	31	35½S	32½E	6600

OWYHEE, MALHEUR WATERSHEDS (1)

Owyhee River

Number	Name	Sec.	Twp.	Rge.	Elev.
16G6	Antelope Ridge (Ida)	20	8S	1W	5900
16G9a	Battle Creek (Ida)	10	11S	1E	5700
15H1MA	Bear Creek (Nev)	31	46N	58E	7800
15H4MP	Big Bend (Nev)	30	45N	56E	6700
17G2a	Blue Mtn Pass	4	38S	42E	5290
17H2	Buckskin, Lower (Nev)	25	45N	39E	6700
17H1	Buckskin, Upper (Nev)	11	45N	39E	7200
16G10a	Bull Basin (Ida)	29	12S	5W	5600
18H1	Disaster Peak (Nev)	8	47N	34E	6500
18G2MA	Fish Creek	4	33S	33E	7900
18G3a	Folly Farm Summit	8	30S	38E	4450
15H2	Fox Creek (Nev)	33	46N	58E	6800
15H7	Fry Canyon (Nev)	31	43N	54E	6700
15H5	Gold Creek (Nev)	31	45N	56E	6600
17H4	Granite Peak (Nev)	22	44N	39E	7800
16G5a	Hyde Pasture (Ida)	31	8S	2W	5800
16H1M	Jack Creek, Lower (Nev)	18	42N	53E	6800
16H2	Jack Creek, Upper (Nev)	9	42N	53E	7250
16H4	Jack Peak (Nev)	28	42N	53E	8420
17G3a	Jordan Valley	9	30S	46E	4390
17G6a	Lookout Butte	2	40S	47E	5650
17G4a	Louse Canyon	27	40S	44E	6440
17H3	Martin Creek (Nev)	18	44N	40E	6700
16H3	Midas (Nev)	18	39N	46E	7200
16G7M	Mud Flat (Ida)	34	9S	2W	5500
17G5a	Oregon Canyon	8	40S	40E	6950

Malheur River

Number	Name	Sec.	Twp.	Rge.	Elev.
18E14	Barney Creek	16	14S	36E	5950
18E16MP	Blue Mountain Spring	21	15S	35E	5900
18F6a	Buck Pasture	21	29S	35E	5700
18E21a	Bully Creek	10	17S	37E	5300
18F7a	Call Meadows	29	20S	33E	5340
17F2a	Cottonwood-Indian	10	19S	39E	4320
18E19M	Crane Prairie	24	16S	34E	5375
18F8a	Crow Camp	Unsurveyed			
18E20	Eldorado Pass	20	14S	38E	4600
18E26a	Flag Prairie	32	16S	36E	4750
18E18	Lake Creek	10	16S	33½E	5120
18E22a	Logan Valley	13	16S	33½E	5100
18F1	Rock Spring	23	18S	32E	5100
18F4MP	Stinking Water	33	21S	34E	4800

BURNT, POWDER, PINE, GRANDE RONDE, IMNAHA WATERSHEDS (2)

Burnt River

Number	Name	Sec.	Twp.	Rge.	Elev.
18E14	Barney Creek	16	14S	36E	5950
18E13M	Blue Mountain Summit	6	12S	36E	5098
17E1M	Dooley Mountain	32	11S	40E	5430
18E20	Eldorado Pass	20	14S	38E	4600
18E8	Gold Center	21	9S	36E	5340
18E9	Tipton	34	10S	35½E	5100

Powder River

Number	Name	Sec.	Twp.	Rge.	Elev.
18E1	Anthony Lake	18	7S	37E	7125
18E5	Bourne	33	8S	37E	5800
17E1M	Dooley Mountain	32	11S	40E	5430
18E3	Eilertson Meadows	18	8S	38E	5400
18E8	Gold Center	21	9S	36E	5340
18E6	Goodrich Lake	4	9S	38E	6775
17D12m	Ladd Summit	5	5S	39E	3730
18E23	Little Alps	10	7S	37E	6200
18D10	Summit Springs	9	6S	37E	6000
17D7	Taylor Green	3	6S	42E	5740

Pine Creek

Number	Name	Sec.	Twp.	Rge.	Elev.
17D8	Schneider Meadows	35	6S	45E	5400

Grande Ronde River

Number	Name	Sec.	Twp.	Rge.	Elev.
17D1	Aneroid Lake No. 1	16	4S	45E	7480
17D2P	Aneroid Lake No. 2	16	4S	45E	7300
18E1	Anthony Lake	18	7S	37E	7125
17D10a	Bald Mountain	14	4S	41E	6700
18D9	Beaver Reservoir	8	5S	37E	5340
18D8	County Line	28	4S	34E	4800
18D6	Lucky Strike	28	3S	32E	5050
18D5	Meacham	24 & 25	1S	35E	4300
17D13a	Mirror Lake	34	4S	44E	8200
17D6M	Moss Spring	28	3S	41E	5850
18D7	Schoolmarm	28	4S	34E	4775
17D11a	Standley	28	2S	42E	7400
17D7	Taylor Green	3	6S	42E	5740
18D3M	Tollgate	31	4N	38E	5070
17D15a	TV Ridge	11	2S	43E	5670

Imnaha River

Number	Name	Sec.	Twp.	Rge.	Elev.
17D1	Aneroid Lake No. 1	16	4S	45E	7480
17D2P	Aneroid Lake No. 2	16	4S	45E	7000
17D14a	Big Sheep	33	4S	46E	6200

UMATILLA, WALLA WALLA, WILLOW, ROCK, LOWER JOHN DAY WATERSHEDS (3)

Umatilla River

Number	Name	Sec.	Twp.	Rge.	Elev.
19D2	Arbuckle Mountain	33	4S	29E	5400
18D14m	Athena-Weston Summit	21	4N	35E	1700
18D12M	Battle Mountain Summit	29	3S	31E	4340
18D4M	Emigrant Springs	29	1N	35E	3925
18D6	Lucky Strike	28	3S	32E	5050
18D5	Meacham	24 & 25	1S	35E	4300
18D3M	Tollgate	32	4N	38E	5070
18D13	Walla Walla Diversion	22	6N	38E	2400

Walla Walla River

Number	Name	Sec.	Twp.	Rge.	Elev.
18D16	Blue Mountain Camp	35	4N	37E	4300
18D3M	Tollgate	32	4N	38E	5070
18D17	Weston Mountain	25	4N	35E	2700

Willow Creek

Number	Name	Sec.	Twp.	Rge.	Elev.
19D2	Arbuckle Mountain	33	4S	29E	5400

UPPER JOHN DAY WATERSHEDS (4)

Upper John Day River

Number	Name	Sec.	Twp.	Rge.	Elev.
18E1	Anthony Lake	18	7S	37E	7125
19D2	Arbuckle Mountain	33	4S	29E	5400
18D12M	Battle Mountain Summit	29	3S	31E	4340
19E2M	Beech Creek Summit	4	12S	30E	4800
18E16MP	Blue Mountain Spring	21	15S	35E	5900
18E13M	Blue Mountain Summit	6	12S	36E	5098
19E3MP	Derr	14	13S	23E	5670
18E27a	East Fork Canyon	15	15S	32E	5700
18E8	Gold Center	21	9S	36E	5340
18E24a	Indian Cr. Butte	5	15S	33E	6550
19E9P	Izee Summit	28	16S	29E	5293
18D6	Lucky Strike	28	3S	32E	5050
20E1MP	Marks Creek	25	12S	19E	4540
20E2	Ochoco Meadows	21	13S	20E	5200
18E7	Olive Lake	14	9S	34E	6000
18D7	Schoolmarm	28	4S	34E	4775
19F1M	Snow Mountain	1	19S	26E	6300
19E7M	Starr Ridge	20	15S	31E	5150
18E9	Tipton	34	10S	35½E	5100
18E25MP	Williams Ranch	20	15S	32E	4500

UPPER DESCHUTES, CROOKED WATERSHEDS (5)

Upper Deschutes River

Number	Name	Sec.	Twp.	Rge.	Elev.
21E11	Black Pine Spring	14	16S	9E	4600
21F8	Caldwell Ranch	30	21S	8E	4400
22F3	Cascade Summit	7	23S	6E	4880
21F7	Charlton Lake	23	21S	6E	5750
21F11	Chemult	21	27S	8E	4760
21F14	Fire Road	36	21S	11E	5050
21E6	Hogg Pass	24	13S	7½E	4755
21F4	Hungry Flat	30	18S	11E	4400
21F6	Irish-Taylor	25	20S	6E	5500
21F17	Mowich	29	25S	25E	4700
21F10	New Crescent Lake	11	24S	6E	4800
21F19	New Dutchman Flat #2	21	18S	9E	6400
21F13	Paulina Lake	34	21S	12E	6330
21F15	Paulina Prairie	28	21S	11E	4285
21F3	Tangent	28	18S	10E	5400
21E15	Three Creeks Butte	27	16S	9E	5200
21E13	Three Creek Meadows	34	16S	9E	5650
22F2	Waldo Lake	15	21S	6E	5500
22F14	Willamette Pass	33	24S	5½E	5600
22F15	Windigo Pass	20	25S	6E	5800

Crooked River

Number	Name	Sec.	Twp.	Rge.	Elev.
19E3MP	Derr	14	13S	23E	5670
20E1MP	Marks Creek	25	12S	19E	4540
20E2	Ochoco Meadows	21	13S	20E	5200
19F1M	Snow Mountain	1	19S	26E	6300
19E4	Tamarack	8	15S	25E	4800

HOOD, MILE CREEKS LOWER DESCHUTES WATERSHEDS (6)

Hood River

Number	Name	Sec.	Twp.	Rge.	Elev.
21D5	Brooks Meadows	2	2S	10E	4300
21D25M	Cooper Spur	6	2S	10E	3490
21D1	Greenpoint Reservoir	28	2N	9E	3400
21D20	Knebal Springs	31	1S	11E	3850
21D23	Parkdale	6	1S	10E	1770
21D8	Phlox Point	6	3S	9E	5600
21D4	Red Hill	20	1S	9E	4400
21D9	Still Creek	25	3S	8½E	3700
21D7	Tilly Jane	15	2S	9E	6000
21D21	Ulrich Ranch Junction	28	1S	11E	3350
21D30	Umbrella Falls	3	3S	9E	5400
21D24	Upper Valley	20	1S	10E	2530
21D28	Switchback	28	1S	9E	3255

Mile Creeks - Mosier Creek

Number	Name	Sec.	Twp.	Rge.	Elev.
21D6	Brooks Meadows	2	2S	10E	4300
21D20	Knebal Springs	31	1S	11E	3850
21D21	Ulrich Ranch Junction	28	1S	11E	3350

Lower Deschutes River

Number	Name	Sec.	Twp.	Rge.	Elev.
21D12	Clear Lake	29	4S	9E	3500
21D22	Clear Lake Experimental	29	4S	9E	3500
21E6	Hogg Pass	24	13S	7½E	4755

LOWER COLUMBIA WATERSHEDS (7)

Sandy River

Number	Name	Sec.	Twp.	Rge.	Elev.
21D8	Phlox Point	6	3S	9E	5600
21D9	Still Creek	25	3S	8½E	3700

WILLAMETTE WATERSHEDS (8)

Clackamas River

Number	Name	Sec.	Twp.	Rge.	Elev.
21D15	Big Bottom	25	6S	7E	2118
21D13	Clackamas Lake	35	5S	8½E	3400
21D12	Clear Lake	29	4S	9E	3500
21D16	Lake Harriet	4	6S	7E	2045
21D14	Peavine Ridge	14 & 15	6S	7E	3500
21D8	Phlox Point	6	3S	9E	5600
21D9	Still Creek	25	3S	8½E	3700
21D17	Timothy Lake	26	5S	8E	3295

Santiam River

Number	Name	Sec.	Twp.	Rge.	Elev.
22E1	Detroit (town)	1	10S	5E	1610
22E2	Detroit Dam	7	10S	5E	1580
21E6	Hogg Pass	24	13S	7½E	4755
21E4	Marion Forks	28	11S	7E	2730
22E3	Mill City	29	9S	3E	826
21E5	Santiam Junction	14	13S	7E	3700
21E3	Whitewater Bridge	22	10S	7E	2175

McKenzie River

Number	Name	Sec.	Twp.	Rge.	Elev.
21E8	Dead Horse Grade	13	16S	7E	3800
22E4	Lost Creek Ranch	24	16S	6E	1956
21E7	McKenzie	35	15S	7½E	4800
22E5	McKenzie Bridge	13	16S	5E	1372
22E6	Vida	28	16S	2E	800
21E9	White Branch Slide	15	16S	7E	2800

Middle Fork Willamette River

Number	Name	Sec.	Twp.	Rge.	Elev.
22F3	Cascade Summit	7	23S	6E	4880
22F6	McCredie Springs	26	21S	4E	2120
22F8	Meridian Dam	13	19S	1W	750
22F7	Oakridge	16	21S	3E	1310
22F5	Railroad Overpass	27	22S	5E	2750
22F4	Salt Creek Falls	33	22S	6E	4000
22F2	Waldo Lake	15	21S	6E	5500
22F14	Willamette Pass	33	24S	5½E	5600

Coast Fork Willamette River

Number	Name	Sec.	Twp.	Rge.	Elev.
22F9	Champion	12	23S	1E	4500
22F10	Golden Curry Creek	1	23S	1E	3136
22F13	Layng Creek R. S.	31	21S	1E	1200
22F12	Lund Park	22	22S	1E	1740
22F11	Weaver Creek	35	22S	1E	2440

Mary's River

Number	Name	Sec.	Twp.	Rge.	Elev.
23E1	Mary's Peak	21	12S	7W	3620

ROGUE, UMPQUA WATERSHEDS (9)

Rogue River

Number	Name	Sec.	Twp.	Rge.	Elev.
23G4	Althouse	17	41S	7W	4530
22G6	Annie Spring	19	31S	6E	6018
22G28	Beaver Dam Creek	1	38S	4E	5100
22G21	Big Red Mountain	31	40S	1W	6500
22G13	Billie Creek Divide	30	36S	5E	5300
22G27	Deadwood Junction	8	38S	4E	4600
22F19	Diamond-Crater Summit	34	28S	6E	5800
22G14	Fish Lake	3	37S	4E	4865
22G12	Fourmile Lake	9	36S	5E	6000
23G3	Grayback Peak	9	40S	5W	6000
22G17	Hobart Lake	17	40S	3E	5010
22G26	Howard Prairie	32	38S	4E	4500
22G16	Hyatt Prairie Reservoir	15	39S	3E	4900
22G22	Little Red Mountain	25	40S	2W	6500
23G5	Page Mountain	8	41S	7W	4045
22G5	Park Headquarters	8	31S	6E	6450
22G29	Rye Spring Spur	11	36S	4E	5000
22G10	Seven Lakes No. 1	3	34S	5E	6800
22G11	Seven Lakes No. 2	26	33S	5E	6200
22G2	Silver Burn	13	30S	4E	3720
22G20	Siskiyou Summit	17	40S	2E	4630
22G9	South Fork Canal	12	33S	3E	3500
22G1	Whaleback	3	31S	2E	5140

Umpqua River

Number	Name	Sec.	Twp.	Rge.	Elev.
22F9	Champion	12	23S	1E	4300
22F18	Diamond Lake	29	27S	6E	5315
23G7	Eden Valley Summit	10	32S	10W	2390
22F16	North Umpqua	19	26S	6E	4215
22F23	Red Butte No. 1	36	27S	2W	4560
22F24	Red Butte No. 2	30	27S	1W	4000
22F25	Red Butte No. 3	30	27S	1W	3500
22F26	Red Butte No. 4	36	27S	1W	3000
22F27	Red Butte No. 5	20	27S	1W	2500
22F28	Red Butte No. 6	17	27S	1W	2000
22F17	Trap Creek	1	27S	4E	3800
22G1	Whaleback	3	31S	2E	5140
22F15	Windigo Pass	20	25S	6E	5800

KLAMATH WATERSHEDS (10)

Klamath River

Number	Name	Sec.	Twp.	Rge.	Elev.
22G6	Annie Spring	19	31S	6E	6018
22G13	Billie Creek Divide	30	36S	5E	5300
21G5	Bly Mountain	15 & 22	37S	11E	5000
21F11	Chemult	21	27S	8E	4760
22G24	Cold Springs Camp	12	35S	5E	6100
20G12a	Crazyman Flat	9	34S	15E	6100
20H2a	Crowder Flat (Cal)	30	47N	11E	5200
22F19	Diamond-Crater Summit	34	28S	6E	5800
21F18	Diamond Lake Jct. (97)	1	29S	7E	4600
21G6a	Dog Hollow	1	40S	14E	4900
20G14a	Finley Corrals	11	36S	16E	6000
22G12	Fourmile Lake	9	36S	5E	6000
21G4	Gerber	12	39S	13E	4850
22G16	Hyatt Prairie Reservoir	15	39S	3E	4900
22G26	Howard Prairie	32	38S	4E	4500
22G15	Lake of the Woods	11	37S	5E	4950
22G5	Park Headquarters	8	31S	6E	6450
22G25	Pelican Guard Station	9	36S	6E	4150
20G6MP	Quartz Mountain	2	38S	16E	5320
22G10	Seven Lakes No. 1	3	34S	5E	6800
22G11	Seven Lakes No. 2	26	33S	5E	6200
20H1a	State Line (Cal)	21	48N	11E	5750
20G9AP	Strawberry	4	40S	16E	5760
20G2AP	Summer Rim	15	33S	16E	7200
21G2	Sun Mountain	22	32S	7½E	5350
20G13a	Sycan Flat	25	31S	14E	5500
21G3	Taylor Butte	16	33S	11E	5100

Pacific Power and Light Company's Snow Stations

Number	Name	Sec.	Twp.	Rge.	Elev.
1	Beatty (PP&L)	22	36S	12E	4300
10	Bly 101 Ranch (PP&L)	22	35S	14E	4800
3	Chiloquin (PP&L)	34	34S	7E	4187
4	Crystal (PP&L)	26	34S	6E	4200
5	Fort Klamath (PP&L)	22	33S	7½E	4150
6	Kirk (PP&L)	1	33S	7E	4533
9	Quartz Mountain (PP&L)	33	37S	16E	5504
8	Harriman Lodge (PP&L)	3	36S	6E	4200
12	Yamsay (PP&L)	20	31S	11E	4600

LAKE COUNTY, GOOSE LAKE WATERSHEDS (11)

Goose Lake

Number	Name	Sec.	Twp.	Rge.	Elev.
20G15a	Bear Flat Meadow	27	36S	19E	5900
20G8MP	Camas Creek	5	39S	21E	5720
20G11a	Cox Flat	16	37S	18E	5750
20G16a	Crane Mountain	13	40S	21E	6020
20H2a	Crowder Flat (Cal)	30	47N	11E	5200
20H3a	Dismal Swamp (Cal)	31	48N	16E	7000
20G17a	Patton Meadow	28	38S	18E	6900
20G6MP	Quartz Mountain	2	38S	16E	5320
20H1a	State Line (Cal)	21	48N	11E	5750
20G9AP	Strawberry	4	40S	16E	5600

Abert Lake

Number	Name	Sec.	Twp.	Rge.	Elev.
20G15a	Bear Flat Meadow	27	36S	19E	5900
20G11a	Cox Flat	16	37S	18E	5750
20G14a	Finley Corrals	11	36S	16E	6030
20G4	Mill Creek	1	34S	17E	6200
20G6MP	Quartz Mountain	2	38S	16E	5320
20G10a	Sherman Valley	15	37S	21E	6600

Summer Lake

Number	Name	Sec.	Twp.	Rge.	Elev.
20G2AP	Summer Rim	15	33S	16E	7200

Silver Lake

Number	Name	Sec.	Twp.	Rge.	Elev.
21F12P	Silver Creek	25 & 26	29S	13E	4900
20G13a	Sycan Flat	25	31S	14E	5500

Warner Lake

Number	Name	Sec.	Twp.	Rge.	Elev.
20G8MP	Camas Creek	5	39S	21E	5720
20G16a	Crane Mountain	13	40S	21E	6020
20H3a	Dismal Swamp (Cal)	31	48N	22E	7000
19G1a	Hart Mountain	1	36S	25E	6350
20G10a	Sherman Valley	15	37S	21E	6600

Guano Lake

Number	Name	Sec.	Twp.	Rge.	Elev.
19H1	Bald Mountain (Nev)	17	45N	21E	6720
19G1a	Hart Mountain	1	36S	25E	6350
19H4a	Little Sally Mt. (Nev)	8	45N	19E	6600

HARNEY BASIN WATERSHED (12)

Silvies River - Silver Creek

Number	Name	Sec.	Twp.	Rge.	Elev.
18F7a	Call Meadows	29	20S	33E	5340
19F	[illegible] Lake	20	19S	26E	5600
19F1	Emigrant Butte	14	21S	27E	5000
18F1P	Idlewild Camp	27	20S	31E	5200
19E9P	Izee Summit	28	16S	29E	5293
18F1	Rock Spring	23	18S	32E	5100
19F1M	Snow Mountain	1	19S	26E	6300
19E7M	Starr Ridge	20	15S	31E	5150
18F4MP	Stinking Water	33	21S	34E	4800
19F4m	Willow-Dahl	19	22S	29E	5000

Donner Und Blitzen River

Number	Name	Sec.	Twp.	Rge.	Elev.
18F6a	Buck Pasture	21	29S	35E	5700
18G2MA	Fish Creek	4	33S	33E	7900
19G1a	Hart Mountain	1	36S	25E	6350
18G1MA	Silvies	35	32S	32½E	6900
18G7a	"V" Lake	31	35½S	32½E	6600

Trout and Whitehorse Creeks

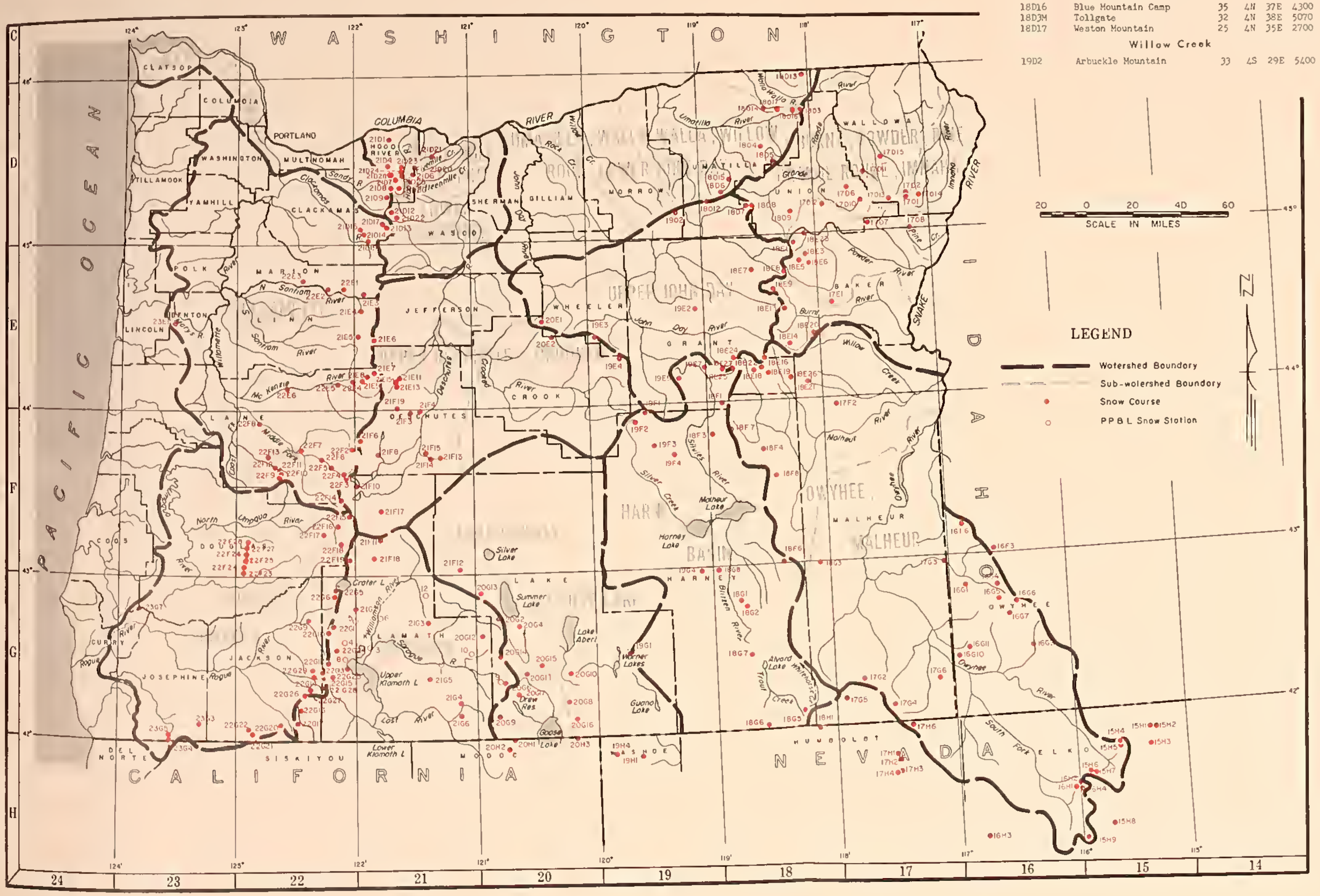
Number	Name	Sec.	Twp.	Rge.	Elev.
18G6a	Denio Creek	14	41S	34E	6000
18H1	Disaster Peak (Nev)	8	47N	34E	6500
17G5a	Oregon Canyon	9	40S	40E	6950
18G5a	Trout Creek	10	41S	38E	7800

Harney Lake

Number	Name	Sec.	Twp.	Rge.	Elev.
18G8	Buckskin Lake	2	30S	30E	5200
19G4	Louder Flat	15	30S	29E	5020

LEGEND

18D2	Snow course only
18D2M	Snow course and soil moisture
18D2MA	Snow course, soil moisture and aerial marker
18D2A	Snow course and aerial marker
18D2m	Soil moisture only
18D2a	Aerial marker only
18D2P	Snow course and precipitation gage



Map and Index to OREGON SNOW COURSES

Ha

The Following Organizations Cooperate in the Oregon Snow Survey Work

STATE
- Idaho Cooperative Snow Surveys
- Nevada Cooperative Snow Surveys
- Oregon State University
- Oregon State Engineer and Corps of State Watermasters
- Oregon State Highway Engineers
- Soil and Water Conservation Districts of Oregon

COUNTY
- Douglas County Water Resources Survey

FEDERAL
- Department of Agriculture
  - Cooperative Extension Service
  - Forest Service
  - Soil Conservation Service
- Department of Commerce
  - Weather Bureau
- Department of the Interior
  - Bonneville Power Administration
  - Bureau of Land Management
  - Bureau of Reclamation
  - Fish and Wildlife Service
  - Geological Survey
  - National Park Service
- Department of National Defense
  - Corps of Army Engineers

PUBLIC UTILITIES
- Pacific Power and Light Company
- Portland General Electric Company
- California-Pacific Utilities Company

MUNICIPALITIES
- City of Baker
- City of La Grande
- City of The Dalles
- City of Walla Walla

IRRIGATION DISTRICTS
- Arnold Irrigation District
- Associated Ditch Companies
- Burnt River Irrigation District
- Central Oregon Irrigation District
- East Fork Irrigation District
- Grants Pass Irrigation District
- Hood River Irrigation District
- Jordan Valley Irrigation District
- Lakeview Water Users, Incorporated
- Medford Irrigation District
- Middle Fork Irrigation District
- North Board of Control - Owyhee Project
- North Unit Irrigation District
- Ochoco Irrigation District
- Rogue River Valley Irrigation District
- South Board of Control - Owyhee Project
- Squaw Creek Irrigation District
- Talent Irrigation District
- Tumalo Project
- Vale-Oregon Irrigation District
- Warmsprings Irrigation District

PRIVATE ORGANIZATIONS
- Amalgamated Sugar Company
- The Crag Rats, Hood River, Oregon

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Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation , navigation , mining and industry

"The Conservation of Water begins with the Snow Survey"